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ABSTRACT

This report is intended to give a clear picture of the Netherlands' educational system and of present and future planning activities. The first six chapters cover the function of education in Dutch society, the role institutions in Dutch society play in the educational system, the present educational system, the numbers of pupils and students flowing through the educational system, the efficiency of the system, and the manpower demand. These chapters situate the major educational targets, which are defined in Chapter 8. Chapter 9 gives a picture of the organization of educational planning, including the formal procedures and the way planning has worked out in practice thus far in nonuniversity education. Chapter 10 gives the same description for university education. Chapter 11 describes recent developments in the organization of educational planning. Chapter 12 provides some concluding remarks. Four appendixes, an examination of the report offered here, and a summary of the discussion of the report are also included. (Author/IRT)

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EDUCATIONAL POLICY AND PLANNING

NETHERLANDS

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DIRECTORATE FOR SCIENTIFIC AFFAIRS

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

PARIS 1967

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TABLE OF CONTENTS

Foreword 13
Preface 15
Introduction 17

Chapter I

Educational planning in the Netherlands

1. The necessity of planning 21
2. The structure of the report 23

Chapter II

Fundamental goals in Dutch society relevant to education

1. Introduction 25
2. Definition of goals 26

Chapter III

The role of Dutch institutions in determining and implementing fundamental goals relevant to educational targets

1. Introduction 31
2. Non-governmental institutions 32
3. Governmental institutions 35
4. Problems which the institutional structure creates for planning 36

Chapter IV

Structural aspects of the educational system

1. General aspects 39
2. Some planning aspects of regulations concerning equality of status of non-governmental and governmental schools . . . 41
3. Some planning aspects concerning the tri-sectional division of the school system 42

Chapter V

Student flows

1. Past and present development 51
2. Forecasts 57
3. Expected influence of the new educational structure 78

Chapter VI

Efficiency

1. Introduction 83
2. Aspects of efficiency 83
3. External efficiency 84
4. Internal efficiency 86
   A. Factors affecting internal efficiency 87

B. Key resource inputs requiring particular information . . 88
C. Guidance 89
D. Finance 90
E. Innovation in education 93
F. The effort to change the educational system 95
G. Standards of efficiency 97

Chapter VII

Manpower demand

1. General 99
2. The demand for university graduates 101
3. Examples 102
4. Total demand for university graduates 107
5. Consequences with respect to choice of faculty 109
6. Actual demand and forecasts 110

Chapter VIII

Some targets

1. General 111
2. Teachers 112
3. Classrooms 113
4. Expenditure 116

Chapter IX

The organisation of planning
(non-university)

1. Introduction 121
2. General 121
3. Planning for schools 122
4. Building plans 126
5. Supply of teachers 126
6. Teachers' salaries 127

7. Finance problems 128
8. The renewal and improvement of education 129
9. Manpower problem 133
10. Some results of planning and problems that arise 134

Chapter X

Organisation and planning of higher education

1. The present university system 137
2. The legal framework for the development of universities in the Netherlands: The Higher Education Act of 1961 139
3. The main features of post-war development of the universities 143
4. A view of major issues related to planning university development 150
5. Standards for the development of university institutions . . 155

Chapter XI

Recent developments in the organisation of educational planning and views on the future organisation

1. General 165
2. The new procedure for establishing schools 167
3. The organisation of the research and planning activities in the Ministry 170

Chapter XII

Final comment 173

APPENDICES

I. The legislative basis of goal 2 (Chapter II) 174
II. Glossary (present system), see (Chapter IV) 178

III. Glossary (future system), see (Chapter IV) 182
IV. Example of a school plan (Chapter IX) 188

Consideration and discussion of the Report 193

I. Examination of the Report

Educational goals and educational innovation, by Mary E. Robinson 195

Economic aspects, by Joseph Steind[illegible] 203

The general planning background for the secondary school reform, by Alan Little 213

Problems of educational research planning, by Eskil Bjorklund . 227

The planning process in educational administration: "piecemeal" versus "integral" planning - Some planning problems involved in educational reforms: post-primary education, by Hans Nowotny 233

II. Summary of the discussion, by Pierre Laderrière 249

1. Aims of the educational system 250
2. Structural reforms and planning machinery 254
3. Research and innovation in the educational system 262

List of participants 267

List of tables, diagrams and graphs

TABLES

1. Denominational division of pupils and schools at primary educational level compared with the corresponding population groups 43

2. Denominational division of pupils and schools from primary to university education 46

3. Denominational division of pupils and schools from primary through secondary (non-pre-academic or senior technical) to higher technical education 47

4. Denominational division of pupils and schools in some main types of higher vocational education 50

5. Number of entrants admitted to the first grade of secondary full-time education as a percentage of all 12-year olds . . 52

6. Increase of flow from primary to secondary education in percentage of 12-year olds as a result of original increase (+) and a change in choice from vocational in favour of non-pre-academic and from non-pre-academic in favour of pre-academic education (-) 55

7. Number of pupils admitted to the first grade of primary education as a percentage of 6-year olds 58

8. Grade enrolment in primary education as a percentage of enrolment in the next lower grade one year earlier 59

9. Number of entrants to grammar schools as a percentage of 12-year olds, by category of region 62

10. Correlation between grammar school enrolment ratios and various social factors, for 90 regions 63

11. Correlation between male grammar school enrolment ratio and various social factors, for 90 regions 64

12. First entrants to grammar schools by social classes 65

13. First entrants to grammar schools as a percentage of 12-year olds for each social class 66

14. First entrants to grammar schools in 1960 as a percentage of the figure for 1949 67

15. First entrants to grammar schools as a percentage of 12-year olds, in relation to sex and to occupational group of father, 1957 67

16. Grammar school enrolment by grade as a percentage of enrolment in the next lower grade one year earlier (males) 69

17. Number of graduates as a percentage of the number of pupils in grade 5 and 6 70

18. Number of university freshmen, 1900-1961 71

19. Number of freshmen with grammar school certificates as a percentage of the total number of freshmen 72

20. Number of university freshmen as a percentage of grammar school certificated leavers 73

21. Number of male students broken down by number of years, since first entrance to universities as a percentage of the corresponding number of freshmen, for each type of faculty . . 75

22. Number of graduates as a percentage of the number of freshmen, by number of years since first enrolment 76

23. Total enrolment by type of education, 1950-1975 77

24. Actual and predicted university enrolment (1950, 1955, 1958, 1963, and 1970) 78

25. Demand for doctors 105

26. Demand for engineers 105

27. Number of graduates 107

28. Shortages and surpluses of graduates as a percentage of the demand for university graduates 108

29. Average percentual distribution of first-year students as among branches of study 109

30. Total enrolment by type of education, 1950-1975 112

31. Number of pupils per teacher or per class, 1950-1975 113

32. Teaching staff 114
33. Number of classrooms 115
34. Recurring expenditure, 1960-1975 117
35. Investment per classroom, 1965 118
36. Total investment, 1965-1975 119
37. Total government expenditure on education, 1950-1975 120
38. Government expenditure on education as a percentage of national income 120
39. University enrolment, 1964-1965 138
40. Total number of students and number of first-year students in 1970 by University 151
41. Total number of students and number of first-year students in 1970 by discipline 151
42. Number of first-year students and total number of students by university and by discipline in 1970 152
43. Government expenditure for higher education (1956-1961) . . 154
44. First year medical students: 1955/56 to 1964/65 157
45. The evolution in the number of first year students from 1920/21 to 1970/71 162
46. The evolution in the total number of students from 1920/21 to 1970/71 163
47. General financial schedule for the universities and the university institutions, 1966-1969 164

DIAGRAMS

I. The role of Dutch institutions in education 33
II. Basic division by educational levels and types, in rough groupings 40
III. Major division of non-governmental and governmental schools into different categories 40

IV. Student flows through primary and secondary education (1951-1964) 53
V. Operational costs per school in relation to school size . . . 91
VI. Actual structure of the Netherlands' educational system . . . 177
VII. Structure of the Netherlands' educational system under the Continued Education Act 187

GRAPHS

I. Transfer to secondary education as a percentage of the number of pupils admitted to primary education six years earlier 56
II. Increase between 1949 and 1957 of first entrants to grammar schools as a percentage of 12-year olds and entrance percentage in 1949 60
III. Number of university freshmen and number of grammar school graduates as a percentage of the 18-year old population, 1954-1956 74
IV. Expenses for medical care and average income (600 families) . 104
V. Number of engineers and GNP, 1900-1956 106

FOREWORD

This report, in large mesure, records the development of a planning system for education in the Netherlands and constitutes, at the same time, an important stage in this development itself. Originally conceived as an informative and analytical contribution to the study of the educational planning process within the Educational Investment and Planning Programme of the Committee for Scientific and Technical Personnel, it developed, during the period of its preparation, into the initial general statement of a new Department of Research and Planning, established within the Netherlands Ministry of Education and Science.

While this volume deals primarily with the existing state of planning and the planning process for education in the Netherlands, and with the major issues in current plans for various segments of the educational system, it also covers a much more comprehensive field in that it broaches many of the broader questions which are of continuing concern to the planning programmes of most O.E.C.D. countries. For example, the report has made an effort to state basic social and economic objectives for the Netherlands towards which its educational planning is directed. Such an effort is noteworthy not only because of the fundamental step that it represents in the planning process but also because it brings to light the difficulties which such a step involves. These difficulties, even when such a statement of objectives manages to express political consensus, are technical in that any such statement must take a form which allows for a meaningful planning exercise to meet these objectives.

Beyond this initial attack, the scope of this report ranges over such questions as the structural organisation of the educational system, major issues in the planning of university development, the role of manpower forecasts, the factors which are connected tho the levels of social participation and to the efficiency or effectiveness of the educational system . A definition is offered for the concept of efficiency of the educational system and its conncection to a research programme required to clarify key points in making such a concept operative.

Finally, the report deals with the institutional dimension, both from the view-point of the existing institutions of education within which educational development takes place and the institutions directly related to the planning mechanism and its conncection to relevant research policy and activities. It is significant that there has been established in the Netherlands a new mechanism for bringing together research efforts in themselves and a direct relationship between the planning programme in the Ministry of Education and research organisations - a development which will be followed with considerable interest in the future.

Thorkil Kristensen
Secretary General of the O.E.C.D.

PREFACE

I regard this treatise on "Educational Planning in the Netherlands" as a welcome contribution to the exchange of views on the pressing problem of the growing needs of education, a problem that presents itself not only in the Netherlands but also in other Member States.

The increase in the number of the pupils consequent upon the population increase, the growing enrolment rates in secondary and higher education due, for one thing, to advancing democratization, our rapidly evolving society with its changing needs of trained workers - these are but a few of the factors that compel us to consider as best we can and in great detail how many new schools will be needed, if only in view of the financial consequences.

If the educational system is not to lag behind the development of society, the qualitative improvement or reform of education should likewise be given full attention. Nor can the problem of efficiency in education be disregarded.

We in the Netherlands have also become convinced that this complexity of problems can only be approached satisfactorily by educational planning and therefore I am pleased that this report which was drawn up under the sole responsibility of the authors could be published within the framework of the Educational Investment and Planning Programme of the Organization for Economic Co-operation and Development. Contributions were received from Mr. C. van Norden, Mr. P.H.A.in 't Zandt and Mr. W. Voster, of the Ministry of Education and Science , and Mr. R. Ruiter, of the Central Planning Bureau, and Mr. H. Veldkamp of the Ministry of Education and Science co-ordinated them.

In describing the problems attached to educational planning in the Netherlands the report offers some ideas that may be valuable for the further development of education in this country.

Professor Dr. I.A. Diepenhorst
Minister of Education and Science

INTRODUCTION

This report has been prepared in accordance with a request by the Secretariat of the Organisation for Economic Co-operation and Development in January, 1963. It is intended as a contribution to the Programme on Educational Investment and Planning (EIP) of the OECD Committee for Scientific and Technical Personnel and is designed to give Member countries an idea of what has been done, and probably will be done, in the field of educational planning in the Netherlands.

The report has to be seen as a snapshot made at a certain moment of the state of development of educational planning and thinking about such planning in the Netherlands. It provides on the one hand a description of what has been done in the past and, in some cases, the results which were obtained. On the other hand, it also explores ideas about what should be done in the near future. At the same time it tries to put the whole of these activities into a kind of theoretical framework.

All this has been done in the knowledge that the report was written for foreign readers and that the educational system in the Netherlands as a social institution must be very difficult to understand for a foreigner. Dutch education has its roots so deep in national history and is so much interwoven with the social and political development in the past, that even for the average Dutchman the system is sometimes too complicated to grasp.

I think one of the greatest compliments which can be paid to the authors is that they obviously - as the comments written by the experts prove - succeeded in making clear to a great extent the Dutch educational constellation as a matrix for educational planning.

It has been put plainly in the report that the central pillar of the whole system is freedom of education in this sense: that the constitution lays definite stress on the safeguarding of the freedom of parents to choose an education for their children in accordance with their principles and beliefs.

This particular concept of the freedom of education is a constant rule governing those who are engaged in educational matters including the government servants who call themselves educational planners. Little imagination is needed to realise that this makes their positions sometimes somewhat delicate. The influence and role of government in the establishment and operation of the schools is not yet clearly defined in all respects and is undergoing transition, but it is not always clear in which direction.

For instance one opinion in the Netherlands is that decision-making about the increase in scale of the educational system, i.e. about where and when schools will be set up, has already moved so well into the hands of the Government that it soon will be completely under its direction.

The difference made in the report between "piecemeal" and "integral" planning must be seen against the background of this situation. In the Netherlands of today "integral" planning needs the closest collaboration between the educational institutions and the Government. This can only be obtained when both sides are convinced of the necessity of planning and have created their planning machineries.

That is one of the reasons why in the report "the goal setting process and the dramatis personae" - as one of the commentators calls it - is described more clearly for higher education than for primary and secondary education. Educational institutions in the field of primary and secondary education up till recently did not have planning organisations capable of and responsible for integral planning. However the obligations in the field of planning laid down in the new secondary education act are pushing things in a direction which seems very promising.

The decision to work out the technical basis needed for the yearly school plans prescribed by that Act, through a concerted action of the educational organisations concerned and the Ministry, is stimulating the establishment of planning units by the united municipalities, the Roman Catholic educational organisations and the Protestant organisations. In principle these units with the Ministry as a fourth partner open up the possibility of a combined effort to start an "integral" planning for all education below the university level.

Can the report be called a plan or not? The opinions of the authors on this point differ as much as the commentators do. It certainly is an interesting question. One could classify the report as a statement about good intentions and nothing else. This is true in so far as there is no effort here to establish legal provisions for the implementation of targets. On the other hand, one can hold that the report can be seen as a plan because the targets presented are based on forecasts which - when they are correct - try to anticipate the wishes of the society. To ensure that adequate facilities will be present to satisfy those wishes is a basic principle of Dutch educational policy.

However this issue might be formally decided, this report should be seen as a description of the present-day situation by some highly interested individuals, who have tried to formulate a number of ideas possibly of value for the further development of educational planning in the Netherlands.

Drs. H. Veldkamp,
Head, Research and Planning Department,
Ministry of Education and Science

19-20

Chapter 1

EDUCATIONAL PLANNING IN THE NETHERLANDS

A contribution from the Netherlands to the OECD
programme on educational investment and planning

1. The need for planning

It is not always clear what is meant by planning. The many existing definitions vary greatly, but they have one thing in common, i.e. they conceive of planning as the opposite of incidental or ad-hoc policy formulation. Planning includes co-ordinated scientific action. It comprises a continuous process which includes scientific analysis, forecasting, decision-making implementation and control.

The need for planning in the field of education was first consciously felt after World War II.

The high birthrate immediately after the war and the rapidly increasing enrolment rate in secondary and higher education created needs which had to be met. For the first year of secondary education alone the rate rose from less than 50 per cent in 1938 to over 90 per cent in 1958, thus exerting great pressure on the schools. The demand for teachers increased rapidly, bringing to light the existence of a serious manpower problem. Adaptation of the educational system, especially at the lower levels of secondary schooling, was necessary.

More generally, the increasingly swift changes charasteristic of our age call for the adaptation of education, in all its aspects, to tomorrow's needs and opportunities. Educational problems have become more and more complex, and it is clear that without effective planning, their solution is impossible.

Among these problems, financial questions have an important place. The need for planning, if only for financial reasons, will be clear from some rough figures on the rise in the budget of the Ministry of Education, Arts and Sciences since 1951. In that year the budget totalled only 422 million current guilders; by 1965 it has risen to 3,194 million current guilders. In 1951 expenditure for educational and cultural purposes accounted for 8.5 per cent of the national budget; in 1965 it amounted to 25 per cent.

More striking still is the fact that a growing share of national income finds its way to education and culture. In 1950 the percentage was 2.6 per cent; in 1965 it was 5.6 per cent and it is estimated that in order to meet present desiderata and others that are already making themselves felt, the percentage must rise to 8 per cent by 1975.

Since such large amounts are involved, educational priorities will have to be weighed as accurately as possible against those for other social needs. The same is true of priorities within the field of education.

A new factor underlining the need for educational planning emerges from the new Post-Primary Education Act, which was approved by Parliament in 1963 and will come into force in 1968. Under this law certain activities involving planning are regulated - e.g. the geographical distribution of schools. The law also effects many changes in the existing educational system and thus gives rise to planning activities. A planning procedure is also incorporated in the Higher Education Act, which came into force on the 1st January, 1961. All this means that extensive integral planning is required. This planning must lead to a balanced, optimally functioning educational system. To achieve such a system it is necessary to state the goals education serves.

These goals are not primarily educational, but goals of society which have to be met through education. Within this framework of social goals are the educational goals themselves, considered as secondary objectives. To create such a system, it is necessary that Dutch educational planning activities, which are still of a more or less piecemeal character, be elaborated into an integral planning system. The first steps in this direction are now being taken.

2. The structure of the report

This report is intended to give a clear picture of the Netherlands educational system and for present and future planning activities.

In order to achieve this, it will be necessary to start with the function of education in Dutch society, or in other words the fundamental goals of Dutch society as they are relevant to education (Chapter II). The role institutions in Dutch society play in the educational system is dealt with in Chapter III. Then follows a description of the present educational system, including some idea of its structure (Chapter IV). Chapter V deals with the numbers of pupils and students flowing through the educational system, divided into inflow and output for the most important types of schools, and it gives some information about the changes which will result from the operation of the new Post-Primary Education Act. The efficiency of the Dutch educational system and the standards which affect efficiency are the subjects of Chapter VI. Chapter VII deals with manpower demand; estimates are given for the supply and demand of certificated pupils and students.

The material presented in these chapters situates the major educational targets, which are defined in Chapter VIII. The following Chapter (IX) gives a picture of the organisation of educational planning in the Netherlands. A description is given of the formal procedure and of the way planning has worked out in practice thus far in the field of non-university education. Chapter X gives the same description for university education. Chapter (XI) describes recent developments in the organisation of educational planning. In Chapter XII some concluding remarks are offered.

A description of the types and names of schools is given in Appendices II and III.

The statistical data mentioned in the report are taken from publications of the Central Bureau for Statistics in the Netherlands.

Chapter II

FUNDAMENTAL GOALS IN DUTCH SOCIETY RELEVANT TO EDUCATION

1. Introduction

A reasonably complete account of the planning of the Dutch educational system must begin with the fundamental goals of Dutch society which that system serves. The educational targets which are established in the process of planning can be evaluated only against the background of these more fundamental goals which they are supposed to meet, and therefore the technical planning process begins with these more general objectives. This involves exploring the inter-relationships among these goals, noting the priorities to be assigned to them, not as a statement of their intrinsic values, but in order to specify their implications for the technical planning process. It involves an effort to draw clear lines between society's fundamental goals and the educational plans that are designed to serve these goals.

Furthermore, it should be noted that the delineation of basic goals of society with a view to their operative effect on planning does not require or constitute an official, formal or exhaustive statement of such goals. It is not an effort to formulate a "correct" statement of goals to which there is official commitment. Rather, it is an effort to formulate the goals which are relevant to educational planning at a level of generality that embraces what is common to the society as a whole. For example, it will be seen that no attempt is made here to state all of the basic goals of the various religious and other groups which organise schools in the Netherlands. An attempt is made to outline fundamental goals only insofar as they are needed as a basis for examining the validity of specific educational plans and targets. Finally, it should be noted that each of the basic goals mentioned below is part of a total structure of objectives, and none of them is intrinsically superior to the other.

2. Definition of goals

Goal 1

To develop positive moral and civic values and cultural attitudes among all the people, and to provide them with the skills necessary for self-fulfilment, so that they may appreciate and contribute to the cultural experience of society. To develop not only understanding of tradition but also the flexibility needed to innovate and accept innovation. To provide for the continuous broadening and deepening of these qualities among the people.

> This goal viewed in terms of planning, need not affect the total number participating in the educational system or the process of student selection within that system.
> However, its effect on the planning of the total educational effort is seen in the large and increasing proportion of educational resources devoted to these general cultural ends. Any rise in the "standard" of cultural education considered necessary and proper in relation to total education must add to the total cost in planning and providing education to meet other fundamental goals. Specifically, there has been a steady rise in the amount and in the standards of "general" education required for the different levels of secondary education. Again, the extent to which the rising rate of participation of girls in the higher levels of education is not matched by their increased participation in the appropriate segments of the labour force, is another measure of the extension of education for cultural purpose.

Goal 2

To maintain the freedom of religious, social and other groups to pursue and intensify their own development. Such private groups in

Dutch society have a constitutional right to carry out activities such as education as an extension of their beliefs. It is through these groups that the Dutch people attempt to express and develop their ultimate life-values.

> The use of the formal educational system towards the attainment of this goal enjoys a certain priority in the system of fundamental goals relevant to education. In practice, this means that generally no pedagogical, economic or budgetary reasons are consdered sufficient to challenge the traditional division of the school system along the lines of fundamental religious and secular groups. All planning of the educational system to meet the general educational needs of the people or the manpower needs of the economy takes place within this school structure. In certain instances however, the third goal enumerated here - the right of each individual to receive an education (see below) - takes precedence. The appropriate government authorities are bound to provide equal educational facilities for those individuals or groups who do not come within the scope of existing private educational institutions (see Appendix I).

Goal 3

To provide adequate education for all individuals and groups to the highest levels that they demand.

> The formal policy of the Netherlands government is not to tolerate any restrictions upon or limitations of, this principle. Prerequisites for entrance to any school cannot include availability of school places. If a sufficiently qualified citizen stands at the door of any type of school he must be admitted, and it is the responsability of the appropriate government authorities to anticipate his requests so that school capacity will be adequate to accomodate him. (See Goal 4).

Goal 4

To provide society and the economy with the trained manpower resources required for optimum functioning. Within the framework of satisfying the first three major goals, the educational system is required to respond to projected manpower needs.

> The conflict between the specific skill groups required by society and the decisions of individuals regarding their education is resolved in this scheme by postulating the voluntary conformity of individuals to social and economic demands. Consequently, great reliance must be placed on vocational information and guidance programmes, based on analysis of projected labour market trends. If these programmes fail to create a reasonable balance between personal educational decisions and society's requirements, there will be pressure to alter Goal 3, i.e. to permit some restrictions on entrance into certain fields of education, based on labour market considerations.

Goal 5

To develop a large and increasing capacity in people to adjust themselves to the career and work changes demanded by modern technology.

> This goal is obviously subsidiary to the objective (Goal 4 above) of educating people to meet society's needs for trained manpower. However, the pursual of goal 5 calls for modifications in the form and content of the educational system which have implications for the allocation of resources within that system. It should also be noted that the conflict between goals 3 and 4, which require both freedom of personal choice in education and, at the same time, provision for training the types of manpower needed by society, can in some measure be resolved through the achievement of this new goal of a labour force educated for flexibility.

Goal 6

To promote the free development of science, providing support for scientific training and research activities whose results are available for innovation in society in general and in the economic sector in particular.

In accordance with this goal a significant proportion of total resources for university level education supports research and training activities.

The above six goals are to be regraded as the framework within which the planning of the Dutch educational system must be conceived and as the basis upon which it must be built In the following chapters, which provide descriptions of the most important aspects od Dutch educational planning, due account is therefore taken of these fundamental goals.

Chapter III

THE ROLE OF DUTCH INSTITUTIONS IN DETERMINING AND IMPLEMENTING FUNDAMENTAL GOALS RELEVANT TO EDUCATIONAL TARGETS

1. Introduction

In general, it can be said that the fundamental goals in a democratic country are based on the wishes and initiatives of the society as a whole. Society, in its social, political, religious and cultural divisions, develops continuously new ideas which have their roots in the historical and philosophical origins of the various groups. These ideas are discussed in ever wider circles and give rise to suggestions of a more formal character. These suggestions become a matter of national interest when they are introduced in parliament by political parties or when government takes over the new ideas. Generally a government does not take initiatives that do not correspond with wishes existing in society, because under democratic conditions government itself springs from the groups in society. This general evolution is also characteristic of the way in which educational questions, in particular, emerge and develop. Especially in the Netherlands, where, due to the freedom of education and the ways this freedom is given concrete expression in educational laws, the different groups in society play a major role in this field.

Consequently the institutions which are active in the field of education in the Netherlands can best be divided into two sectors, the governmental and the non-governmental. Both types of institutions exist at several different levels.

Diagram I indicates the role the various institutions play in the Dutch educational structure. This representation is of a rather simplified character.

2. Non-governmental institutions

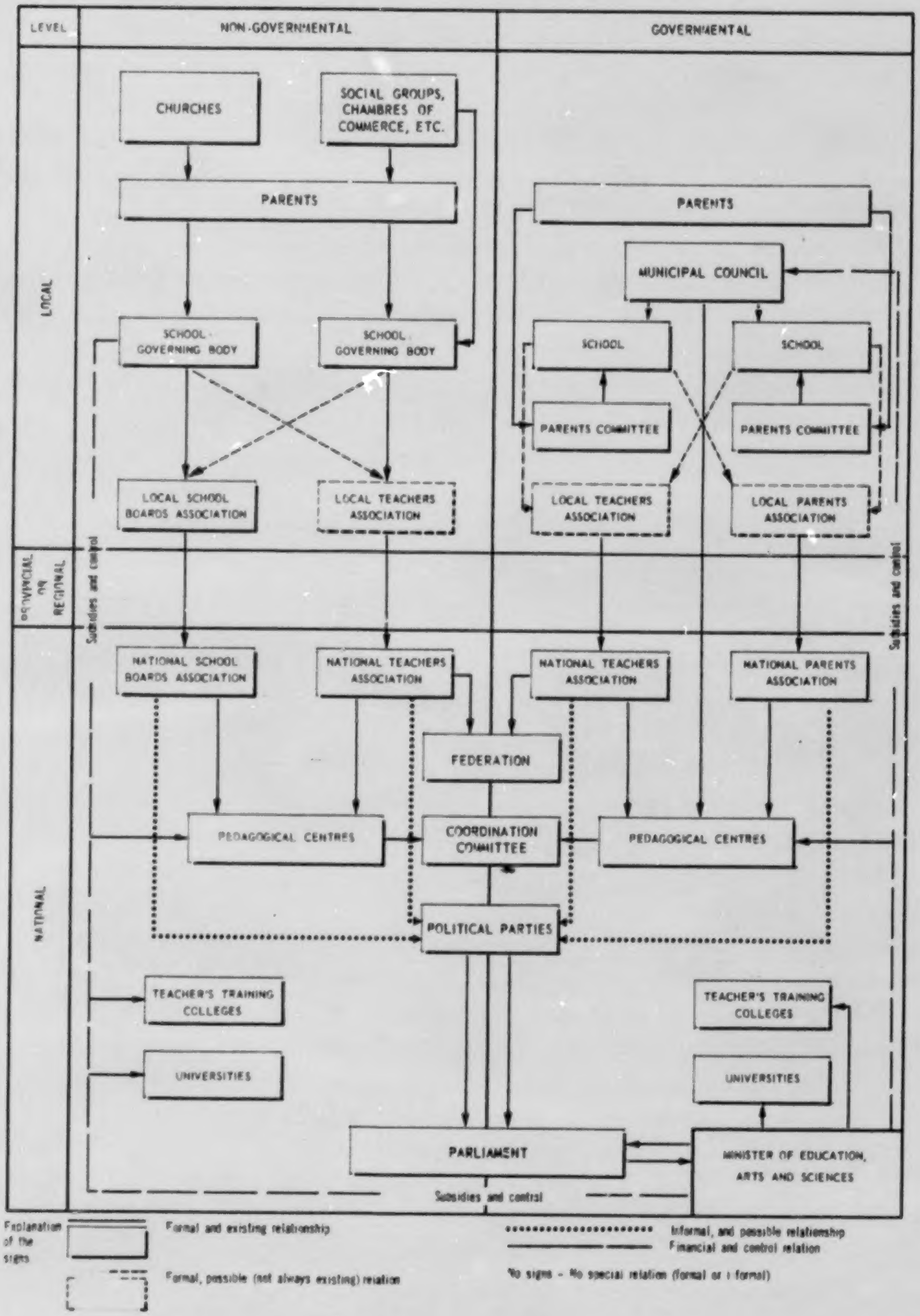
In the case of non-governmental schools there are in general three possibilities. First parents may wish to send their children to denominational schools (Roman-Catholic or Protestant). Parents may, on the other hand, desire to send their children to schools with special teaching methods (e.g. the Pestalozzi, Montessori or Dalton systems). The third possibility (this is especially the case in vocational education) is that industrial and commercial circles feel a need for certain types of (vocational) schooling. In the Technical and Vocational Education Act priority is given to private initiative for establishing such schools.

At the foundation of the whole structure (at the local level) are the parents who prefer non-governmental education for their children. These parents unite to form governing bodies of private schools on the basis of religious belief (denominational schools) or of a preference for special teaching methods (non-denominational schools). Persons other than parents who are interested in promoting education of this kind (mostly moved by a feeling of civic responsibility) can also be members of such bodies. In the Netherlands the churches themselves do not now in general found schools for the children of their members, although they are sometimes represented by delegates on the governing bodies. The members of these bodies do not receive compensation for their voluntary services.

In the case of non-denominational vocational education, organisations of employers and trade-unions join to establish a foundation which serves as a governing body for a school. Here the influence of the parents is not of the same weight as in the above-mentioned situations. In bigger municipalities the governing bodies of one or more schools of the same denomination are often co-ordinated through a local board.

Diagram I

THE ROLE OF DUTCH INSTITUTIONS IN EDUCATION


LEVEL
NON-GOVERNMENTAL
GOVERNMENTAL
LOCAL
PROVINCIAL OR REGIONAL
NATIONAL
CHURCHES
SOCIAL GROUPS, CHAMBRES OF COMMERCE, ETC.
PARENTS
SCHOOL GOVERNING BODY
SCHOOL GOVERNING BODY
LOCAL SCHOOL BOARDS ASSOCIATION
LOCAL TEACHERS ASSOCIATION
PARENTS
MUNICIPAL COUNCIL
SCHOOL
SCHOOL
PARENTS COMMITTEE
PARENTS COMMITTEE
LOCAL TEACHERS ASSOCIATION
LOCAL PARENTS ASSOCIATION
Subsidies and control
Subsidies and control
NATIONAL SCHOOL BOARDS ASSOCIATION
NATIONAL TEACHERS ASSOCIATION
NATIONAL TEACHERS ASSOCIATION
NATIONAL PARENTS ASSOCIATION
FEDERATION
PEDAGOGICAL CENTRES
COORDINATION COMMITTEE
PEDAGOGICAL CENTRES
POLITICAL PARTIES
TEACHER'S TRAINING COLLEGES
UNIVERSITIES
TEACHER'S TRAINING COLLEGES
UNIVERSITIES
PARLIAMENT
MINISTER OF EDUCATION, ARTS AND SCIENCES
Subsidies and control
Explanation of the signs
Formal and existing relationship
Formal, possible (not always existing) relation
Informal, and possible relationship
Financial and control relation
No signs - No special relation (formal or i formal)

In the larger urban centres teachers belonging to schools of a certain denomination usually unite in a local branch of a national teachers' association.

On the provincial level there is not a great deal of educational activity. On the national level the governing bodies of schools representing each type of education and each denomination are generally grouped together in a national association, which usually has its own central office. These associations are important for the exchange of views on education and for the formation of opinion on a national level.

The teachers associations should not be regarded as trade unions only, but also as bodies which play a role in the development of thinking on educational matters. These national denominational associations are sometimes united in a national federative body to which the teachers associations of public schools also belong. In this body co-ordinated views are formulated, and joint action planned with respect to both trade-union affairs and general educational questions.

After World War II the national associations of governing bodies and of teachers joined to found the so-called pedagogical centres. These centres have as their function the improvement and renovation of education (curriculum, teaching methods etc). There is a Roman Catholic and a Calvinistic pedagogical centre; within these centres all types of education, in principle, are brought together. A co-ordinating committee exists to co-ordinate the activities of the several centres, including the centre for public education. As the diagram shows, there is no formal relation between the pedagogical centres and the teacher training colleges and universities.

The political parties, the majority of which are based on religion, try to promote the views of the denominations to which they are related. As parents, most members of these parties have an interest in education but, as a rule, this field is handled by party experts, who often have lengthy experience as executives of the national associations of governing bodies of non-governmental schools and of the national teachers associations. The educational views and objectives prevalent in the political world are thus based on a knowledge of realities.

As stated above, the churches exert their influence on education via the local organisations and do not run schools themselves. Some denominations have set up a system of school inspection existing alongside State inspection. Denominational inspection, therefore, is especially concerned with the religious climate in the schools and the qualifications of the teachers who give religious instruction.

Private industrial and commercial groups are also interested in education. On the national level, employers organisations have created the "Contact-centrum Bedrijfsleven Onderwijs" (Contact centre Industry-Education), which seeks to improve relations between industry and the educational world. It performs this task, by for example, giving information to teachers and pupils and by expressing the views and wishes of employers on educational matters. Industry's interest in education is two-fold: it is quantitative with respect to the need for sufficient numbers of skilled workers and qualitative with respect to the need for people having the appropriate qualifications.

3. Governmental institutions

At the lowest (local) level are the municipalities, which function as governing bodies for most of the governmental schools (for some types of education there are also State schools directly under the Ministry of Education and Science). The Municipal Council decides on the establishment of new public schools. Moreover, the Council has to make financial provision for some types of private education (e.g. nursery schools and primary schools). The subsidies for private schools in a municipality are based (by law) on the average expenditure of the public schools of the same type. This is a consequence of the financial equality between governmental and non-governmental education. Parents have some influence on public education via parents committees which are associated with each individual school. Sometimes these committees join together locally in a parents council. The teachers in the public schools are organised in the same way as in the private sector.

Provinces never serve as the basis for governing bodies of governmental schools. On the national level, the most important figure is naturally the Minister of Education and Science . In collaboration with Parliament, he is responsible for new legislation and for the annual budget, which is the main source of funds for both public and private education. There are a few exceptions to this rule: the most important is agricultural education, which comes under the authority of the Ministry of Agriculture. Inspection of the educational system except higher education is carried out by a system of State Inspectors for each type of education under the supervision of an Inspector-General.

To assist him in making decisions, the Minister has at his disposal a permanent advisory body: the Educational Council. Another body is specifically responsible for the co-ordination of higher education: the Academic Council. Both councils are set up by law: their members (not State officials) are appointed by the Queen.

As the diagram shows there is a pedagogical centre for the improvement and renovation of governmental (and non-denominational) education. In this centre, the State and the important municipalities and organisations of private non-denominational education work together. Like the other pedagogical centres, this centre is financially supported by the State. Although the universities constitute a completely different type of education, separate from the rest of the educational system, they influence the educational system. The results of university research often have consequences for education as a whole. Furthermore, pedagogical research undertaken by the university pedagogical centres) has a definite influence on teaching methods.

4. Problems which the institutional structure creates for planning

It will be clear that the institutional structure described above gives rise to problems which affect the possibilities and procedures of educational planning in the Netherlands.

Two main points can be distinguished:

(a) The decentralisation of the Dutch educational system;

(b) The equality of governmental and non-governmental education.

Decentralisation means that educational planning is carried out not only at the national but also at the municipal level. This has consequences for planning with respect to governmental schools (municipal) as well as for finance (the municipalities pay for the schools at the pre-primary and primary levels, and, within the limits of the law, control the grants for non-governmental schools).

The equality of governmental and non governmental schools, which in practice has led to a majority of non-governmental schools in most types of education, has resulted in a division into three (sometimes four) vertical sub-systems. This has meant still greater decentralisation. Many aspects of education cannot be regulated directly, but rather through the setting of conditions for receiving grants. Both of the above points make it clear that - within the limits set by the laws - the system of financing is one of the instruments by which the Dutch education establishment is governed.

Another important point is that, as a consequence of the principle of freedom of education, the national government has little or no formal influence on the teaching methods used in the schools (governmental-municipal and non-governmental). Improvements can be effected only through the free acceptance of new methods and the voluntary co-operation of the teachers and school governing bodies. It is obvious that in order to achieve optimal pedagogical results, provision must be made for wide distribution of information. The role of the pedagogical centres must therefore be regarded as very important.

The diagram in section 1 above shows that there are no formal links between the teachers' training colleges and the universities, on the one hand, and the pedagogical centres on the other. Hence, the assimilation of the results of scientific research into teaching practice necessarily falls short of the optimal level, and the contacts between university and school must be strengthened. The creation of a foundation for educational research mentioned below, may be regarded as a significant step in this direction. Furthermore, the difficulty in bringing scientific work to bear on new teaching methods must also be corrected by the activities of the pedagogical centres themselves.

The nature and scope of the problems noted above make it clear that educational planning in the Netherlands is not the concern of the Ministry of Education alone. Many institutional forces influence the system, and planning, therefore, cannot be carried out exclusively by a ministerial unit. It is, rather, effected on the basis of negociation with all organisations concerned with education.

Chapter IV

STRUCTURAL ASPECTS OF THE EDUCATIONAL SYSTEM

1. General aspects

Dutch educational planning must take into account two main structural aspects of the educational system. They are:

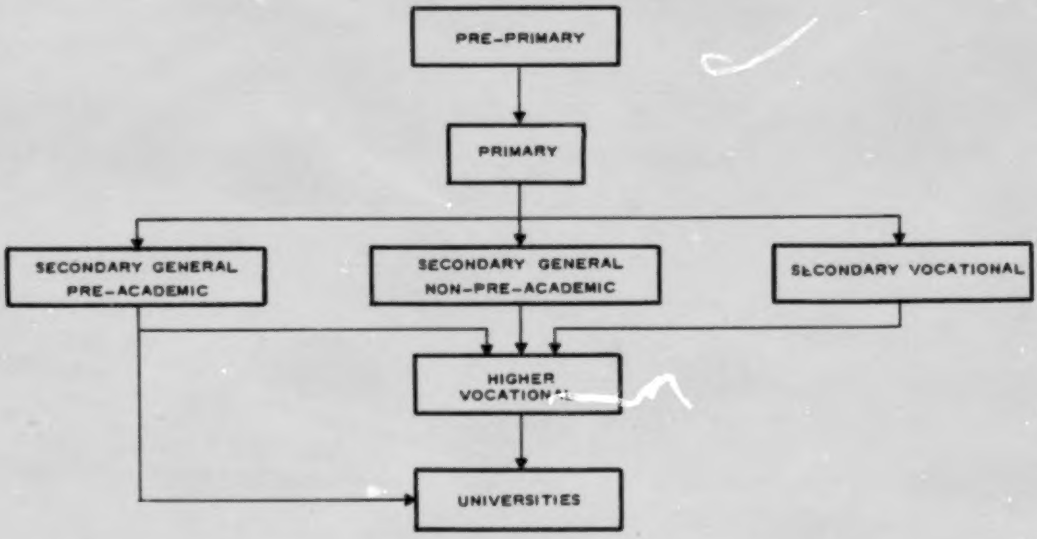
(a) Its division by level and type;

(b) The principle of equality of status between governmental (public) and non-governmental (private) schools.

The simplified diagram below shows the division by level and type. It gives a rough general idea of this aspect of structure and of the major vertical transition possibilities. The different types within each sector of Diagram II are insofar as is necessary for the purposes of this paper described in Chapter V. It should, however, be noted here that since in the near future, as a result of the post-primary law, all post-primary education (excluding universities) will be endowed with a new structure, a distinction must be made between present and future structure. In Chapter V the main aspects of both structures will be described on the basis of Diagram II, together with the student flows. A glossary of the major types of schools in the present and future systems is given in Appendices II and III.

Diagram II

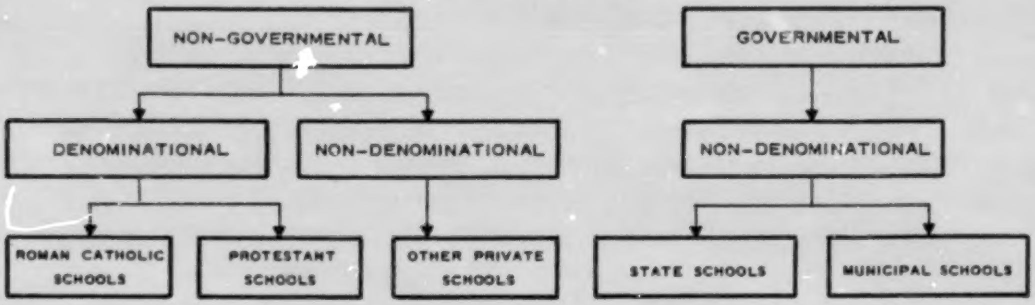
BASIC DIVISION BY EDUCATIONAL LEVELS AND TYPES IN ROUGH GROUPINGS


PRE-PRIMARY
PRIMARY
SECONDARY GENERAL PRE-ACADEMIC
SECONDARY GENERAL NON-PRE-ACADEMIC
SECONDARY VOCATIONAL
HIGHER VOCATIONAL
UNIVERSITIES

The equality of status of non-governmental and governmental schools, mentioned as aspect (b) above, leads to another division of all levels and types. The various categories of schools derived from this aspect which may occur at each level and type are shown in Diagram III.

Diagram III

MAJOR DIVISION OF NON-GOVERMENTAL AND GOVERNMENTAL SCHOOLS INTO DIFFERENT CATEGORIES


NON-GOVERNMENTAL
GOVERNMENTAL
DENOMINATIONAL
NON-DENOMINATIONAL
NON-DENOMINATIONAL
ROMAN CATHOLIC SCHOOLS
PROTESTANT SCHOOLS
OTHER PRIVATE SCHOOLS
STATE SCHOOLS
MUNICIPAL SCHOOLS

Roman Catholic, Protestant and non-denominational schools exist at every level and for each type of education. For the non-denominational schools, the situation varies between the different levels and types with respect to whether a majority of the schools are government-operated and, if so, whether they are State or municipal schools. In primary education, for example, the great majority of non-denominational schools are run by municipal authorities. There are no State schools at this level and, as at all other levels and types (except for certain types of vocational education), only a small minority of non-denominational schools are privately operated. Non-denominational private schools, especially in primary education, are sometimes based on a compromise between different denominational groups in the population, i.e. Protestant sub-denominations, thus being, in fact, denominational schools. Really non-denominational schools are sometimes schools with a special approach, such as, for instance, Dalton-schools and, in pre-primary education, Montessori schools. With respect to the types of vocational education mentioned above, the schools in question are non-denominational schools which take the place of municipal or State schools.

2. Some planning aspects of regulations concerning equality of status of non-governmental and governmental schools

Two main aspects of equality of status of non-governmental and governmental schools relevant to planning are:

(a) The principle of equal state financing of both categories of schools;

(b) The equal right of both categories to be established.

As may already be clear from Chapter II, non-governmental schools are financed by the government (directly by the central government or indirectly via local authorities) to the extent of the costs of comparable governmental (State or municipal) schools, under conditions which must guarantee the quality of education and freedom in the choice of educational approach and in the appointment of teachers. The type of school determines whether municipal or State schools serve as the model for financing and whether the grant is given directly by the central government or indirectly via local authorities. The conditions for

State financing of non-governmental schools are the same as the regulations which are in force for governmental schools. However, for governmental schools, they are in the nature of binding regulations, whilst for non-governmental schools they should be regarded as the terms on which a grant is made. They concern requirements regarding teachers' qualifications and the curriculum and regulations for State inspection.

In applying the principle of equal financing in practice, the different regulations for different types of school mentioned in Chapter II vary not only because of the nature of the type of school concerned but, often, also because of developments in technical approach. Some information is given in Chapter VI on the latter point. Regulations to implement the equal right of establishing either non-governmental or governmental schools are also partly the result of a certain evolution over the years - in this case, in basic thinking on the subject and in legislation.

A most important legal step in this development is the adoption of the new law, which, as mentioned earlier, regulates all post-primary education except universities. Appendix I makes it clear that with regard to the present structure, legal regulations exist only for pre-primary education, primary education and some types of secondary education. Under the appropriate legislation, a certain number of parents' signatures creates the right to establish a school. Under the post-primary law, however, a planning procedure which is, more or less, already being applied for some types of school (for the most part vocational schools and universities) has now been legally introduced for the founding, or the granting of subsidies, to schools throughout the post-primary sector, except at the university level. Detailed information on this procedure is given in Chapter XI.

3. Some planning aspects concerning the tri-sectional division of the school system

The history of the division of the Dutch educational system due to the basic groups in the population has given rise to the three major streams previously mentioned (Roman Catholic, Protestant and non-denominational), which tri-sect the school population from the pre-primary and primary levels through secondary and higher education.

The division of pupils and schools into these three streams is only partly correlated with the relevant population groups in Dutch society (Roman Catholic: 40 per cent; Protestant: 38 per cent; other denominations and non-denominational groups: 22 per cent). At the pre-primary and primary levels, the school streams most nearly correspond with the population groups, although, there too, great discrepancies with the above-mentioned percentages are to be observed. Above the primary level there is an increasing shift of pupils to the non-denominational schools, as can be seen from the tables which follow. These tables deal only with a number of the main streams, namely those flowing from:

(a) Primary - through secondary (pre-academic) - to university education;

(b) Primary - through secondary (non-pre-academic) - or secondary vocational to higher technical education;

(c) Primary - through secondary (non-pre-academic) - to other higher vocational education (limited to teacher training colleges and colleges for training social workers).

To begin with, however, the division of pupils and schools at the primary level will be compared with the population percentages given above.

Table 1

Denominational division of pupils and schools at primary educational level compared with the corresponding population groups in percentages

	Roman Catholic	Protestant	Non-denominational and other denominational groups (schools)	Total
Population	40	38	22	100
Pupils	45	27	28	100
Schools	38	29	33	100

Even at primary level the percentage of non-denominational schools and that of children attending them (33 per cent and 28 per cent respectively) are higher than the 22 per cent population figure for the non-denominational and "other" denominational groups. This is mainly because many Protestants, in particular, prefer non-denominational schools. Since about 27 per cent of all pupils at primary level attend a Protestant school, while 38 per cent of the Dutch population belongs to one Protestant denomination or another, about 70 per cent of Protestant children are sent to a Protestant primary school and about 30 per cent to a non-denominational school. These pourcentages vary for the different denominational groups within the Protestant sector and from region to region. By analysis of regional differences, it could be shown, however, that in spite of denominational subgrouping, the percentage of Protestant children sent to Protestant schools decreases as the percentages of Protestants in a region is higher. In regions where they form a small minority (Catholics constituting a large majority) nearly all Protestant children at primary level are sent to a Protestant school whatever their sub-denomination may be.

It is also observed that in a region with a high percentage of Protestants, nearly all Roman Catholic children at primary level are sent to a Roman Catholic school, while in regions where they form a majority, some of them are sent to a non-denominational school. The latter phenomenon, however, is less pronounced in the case of Catholics than in that of Protestants since, in general, Catholics prefer Catholic schools to a greater extent than Protestants prefer Protestant schools.

Table 1 shows that only in the Roman Catholic sector is the percentage figure for primary schools less than the corresponding percentage of pupils (38 per cent compared with 45 per cent) while for Protestant and non-denominational schools these percentages are respectively 29 per cent compared with 27 per cent and 33 per cent compared with 28 per cent. This reflects a greater average size of Catholic primary schools compared with Protestant and non-denominational schools. In this sector this is possible since in two of the eleven Dutch provinces the population is almost homogeneously Roman Catholic. In the planning of schools a conflict situation may thus arise between regional and denominational educational opportunities, as well as between denominational needs, on the one hand, and required school size on the other, especially where population is less dense and its composition more heterogeneous.

Such as conflict situation in fact often occurs, especially at the secondary and higher educational levels, though varying in character among different types of school, as is shown in tables 2-4. It is a major reason for the previously mentioned increasing shift of pupils to non-denominational schools at the secondary and higher education levels. This latter tendency, however, also depends on factors such as: (i) the total number of pupils attending a given type of school; (ii) the age of the pupils (in relation with the distance from their homes to the school); (iii) the sub-division of the main stream among a greater or smaller number of different types of school or the degree of complexity of the type of school (a greater or smaller number of different disciplines or streams within one type of school and, for the different branches, more or less specialised teachers being required, etc.); (iv) in a given type of school, the degree of stress on vocational or general education, and the type of vocational education involved.

Table 2 shows the above-mentioned increasing shift to non denominational schools for the transition from primary through secondary (pre-academic) to university education.

Table 2

Denominational division of pupils and schools from primary to university education

Level and type	Non-denominational schools	Denominational schools		Total
		Roman Catholic	Protestant	
	Percentage of pupils (students)			
Primary	28	45	27	100
Secondary (pre-academic) . . .	41	36	23	100
University (1)	80	13	7	100
	Percentage of schools			

Table 2

Denominational division of pupils and schools from primary to university education

Level and type	Non-denominational schools	Denominational schools		Total
		Roman Catholic	Protestant	
	Percentage of pupils (students)			
Primary	28	45	27	100
Secondary (pre-academic) . . .	41	36	23	100
University (1)	80	13	7	100
	Percentage of schools			
Primary	33	38	29	100
Secondary (pre-academic) . . .	45	36	19	100
University (1)	75	17	8	100

It is seen that, although the shift is considerable for the transition from primary to secondary education, it is particularly heavy for the transition from the secondary to the university level. It is clear that there is a far less even regional distribution of universities than of secondary schools. That distance at university level plays an important role in the choice of a given institution is also apparent from the fact that universities, whether denominational or non-denominational have, to a certain extent, a regional function.

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(1) University colleges included. In the Netherlands, the term "university" is only used for institutions comprising at least three faculties, one of which must be either the faculty of medicine or of mathematics and natural science. University colleges specialise in one field: in technology, in agriculture, or in economics, law and sociology. As the standards are the same as at universities, no distinction is made in this report between universities and university colleges.

A somewhat similar picture, at least at the higher vocational level, emerges from Table 3 concerning the stream from primary through both secondary (non-pre-academic) and secondary vocational to higher technical education. At secondary level two types of schools are mentioned since both represent important possibilities of transition [quantitatively, transition via secondary (non-pre-academic) education is the most important]. Moreover, an interesting disparity is to be seen in the degree of shift to non-denominational schools as between the two types mentioned.

Table 3

Denominational division of pupils and schools from primary through secondary (non-pre-academic or senior technical) to higher technical education

Level and type	Non-denominational schools	Denominational schools		Total
		Roman Catholic	Protestant (3)	
	Percentage of pupils			
Primary	28	45	27	100
Secondary				
non-pre-academic . .	33	36	31	100
technical (1)	70	15	15	100
Higher				
technical (2)	89	11	-	100
	Percentage of schools			
Primary	33	38	29	100
Secondary				
non-pre-academic . .	31	37	32	100
technical (1)	53	30	17	100
Higher				
technical (2)	83	17	-	100

(1) Both junior technical and senior technical schools (Dutch names: L.T.S. and U.T.S. see Appendix II).

(2) Higher technical education mentioned here is given on a level just below the university. Technical education at university level is given in technical universities, which are included in Table 2.

(3) No Protestant higher technical colleges have yet been established. Two such schools however are planned.

It can be seen that for the transition from primary to non-pre-academic secondary education the shift to non-denominational schools is small compared with the degree of shift observed in the transition to secondary technical schools or to the secondary (pre-academic) schools mentioned in Table 2.

Denominational choice may play a role in the different levels of entrance from primary to secondary general and secondary technical education. Another, perhaps more important, reason is that the (non-pre-academic) type of general education concerned (U.L.O., see Appendix II) is a far less complicated one than secondary technical education with its different branches. In its present structure it is also far less complicated than secondary pre-academic education which, moreover, is split up into different school types (gymnasium, H.B.S., lyceum, see Appendix II); finally, pupils who opt for pre-academic education represent fewer than half of those opting for non-pre-academic education. All these factors, of course, play an important role with respect to the size of schools - a matter of significance not only from the point of view of costs but, not less important, from an educational point of view. If this fact is not sufficiently taken into account, the result will be either too small schools or a less properly balanced distribution of the different school types.

In this respect two interresting facts emerge from Table 3: (i) in the Protestant sector relatively more pupils attend secondary (non-pre-academic) than primary schools, and (ii) the size of technical schools in the non-denominational sector is much greater than in the denominational sector. The first of these phenomena is due to an earlier preference in the northern regions (Protestant regions) for the non-pre-academic type of secondary school over the pre-academic type. This has led in these regions to a less balanced distribution of the two types of secondary schools.

The second of these interesting facts also has a historical background. In earlier days, secondary technical schools, (non-pre-academic), being concerned only with vocational training, all started as non-denominational schools. This type of school is now increasingly emphasizing general education and there has been a growing tendency to establish denominational technical schools, especially in the Roman Catholic sector. Within this general school type, the Roman Catholic schools represent 30 per cent of the total, although they contain only 15 per cent of the total pupils. In the Protestant sector, the number of schools and pupils is more closely balanced - 17 per cent and 15 per cent respectively. In comparison, the non-denominational technical secondary schools represent 53 per cent of the total and serve 70 per cent of this school population. This means, of course, that the denominational non-pre-academic secondary schools, particularly the Roman Catholic, have been growing in number more rapidly than the number of pupils.

The denominational division in higher technical education is particularly interesting if compared with other higher vocational education (Tables 3 and 4). The figures for the secondary school level contained in Tables 2 and 3 may be compared further with the larger picture of higher vocational schooling in Table 4, which summarizes the total number of schools and pupils for this level in 1963/64.(1)

It is seen from Table 4 that differences along denominational lines between various types of higher vocational education depend, in the first place, on the type of vocation. Training for teaching and social work appears to be more closely bound to denomination than does training for other professions; at the same time, especially when compared with technical colleges, teachers and social workers colleges are less complicated. Moreover, the number of students at teacher training colleges is about 2 1/2 times the number of pupils at technical colleges. But a more or less unbalanced distribution, largely for historical reasons, also emerges from Table 4 if percentages of schools are compared with those of pupils.

---

(1) In addition to the transition from the two types of secondary school mentioned in table 3, there is also a rather important transition stream from secondary pre-academic to higher technical education.

Table 4

Denominational division of pupils and schools in some main types of higher vocational education

Type	Total number of		Non-denominational schools	Denominational schools		Total
	Schools	pupils		Roman Catholic	Protestant	
			Percentage of pupils			
Technical Colleges	23	10,997	89	11	-	100
Agricultural and Horticultural Colleges	12	1,320	61	19	20	100
Teachers' Training Colleges	96	25,752	30	37	31	100
Social workers' Training Colleges .	17	3,661	39	38	23	100
			Percentage of schools			
Technical Colleges	23	10,997	83	17	-	100
Agricultural and Horticultural Colleges	12	1,320	50	33	17	100
Teachers' Training Colleges	96	25,752	27	46	27	100
Social workers' Training Colleges .	17	3,661	47	35	18	100

Chapter V

STUDENT FLOWS

1. Past and present development

Diagram IV, which is based on enrolment figures, shows the recent flow of 100 pupils through primary and secondary schooling. The school generation concerned was admitted to primary school in 1951 and to secondary school in 1957. Completion of secondary education was in 1960-1964, depending on the length of the different programmes.

The sample shows that of every 100 pupils admitted to primary education about 94 left after completing at least six grades. Of the remaining 6 per cent about 4 per cent left at a lower grade, for special education. About 82 per cent of the generation concerned went to secondary school. Only 50 per cent received a diploma.

In Diagram IV, the present situation is shown with regard to the flow of students through primary and secondary education. Two things are of interest here, the transfer from primary to secondary education and the drop-out rates.

Analysis of figures over a long period shows that drop-out rates for all types of schools are more or less constant. Major changes, however, can be noticed in the transfer rates. Development since 1930 appears from Table 5 in which the number of entrants into the three major types of secondary education is given separately for boys and girls as a percentage of all 12-year-olds.

Table 5

Number of entrants admitted to the first grade of secondary full-time education as a percentage of all 12-year-olds

	1930	1940	1950	1960	1962
Boys					
Vocational (1)	13.6	22.3	29.9	34.8	36.7
Non-pre-academic	16.5	19.8	25.4	33.3	31.9
Pre-academic	7.5	8.6	11.2	16.3	16.7
Total (1)	37.6	50.7	66.5	84.4	85.3
Girls					
Vocational	12.6	20.4	33.6	39.5	40.2
Non-pre-academic	14.7	18.1	25.1	34.8	34.9
Pre-academic	4.1	4.5	7.1	12.8	13.3
Total	31.4	43.0	65.8	87.1	88.4

(1) Except elementary agricultural schools.

It should be noted that two major tendencies, more or less parallel to each other, emerge from the above figures.

They are:

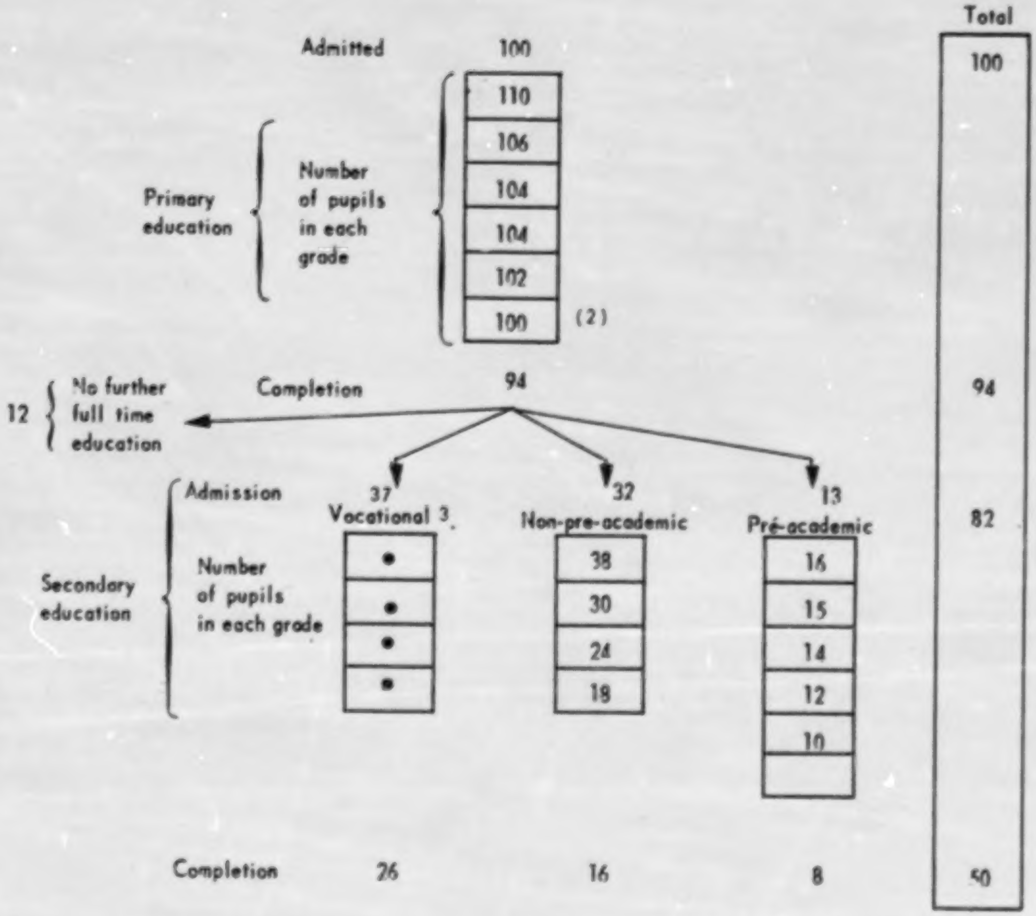
(a) The already mentioned increasing transfer from primary to secondary education.

(b) A tendency to opt more and more for the higher-level types of secondary education.

The increase in vocational education takes place mainly among pupils who, in the past, would have gone to work immediately after compulsory education. The increase in entry to non-pre-academic education

Diagram IV

STUDENT FLOWS THROUGH PRIMARY AND SECONDARY EDUCATION
1951 = 1964[1]


Total
Admitted
100
100
Primary education
Number of pupils in each grade
110
106
104
104
102
100
(2)
12
No further full time education
Completion
94
94
Admission
37
Vocational 3
32
Non-pre-academic
13
Pré-academic
82
Secondary education
Number of pupils in each grade
•
•
•
•
38
30
24
18
16
15
14
12
10
Completion
26
16
8
50

---

1. The difference between the number of pupils admitted and the number in e.g. the first grade is due to retardation and, in the case of secondary education, also, to the same pupils being counted twice. For instance, some pupils may choose the non-pre-academic type of secondary education after having followed the pre-academic stream for some time.
2. A relatively small number of pupils in 7th and 8th grade included.
3. Number of pupils in each grade is unknown.

comes mainly from families who, in the past, sent their children to vocational schools; the rise in pre-academic education is predominant among families who previously opted for non-pre-academic education. The increase in vocational education, therefore, is more or less equal to the increase in total transfer from primary to secondary education diminished however by a tendency of parents to favour non-pre-academic education over vocational education. The increase in non-pre-academic education caused by this trend is reduced by still another change in parents' preferences, favouring pre-academic over non-pre-academic education.

It may thus be said that, although for boys in 1960, for example, about 21 per cent more 12-year-olds transferred from primary to vocational school than in 1930, the original increase was about 47 per cent. This figure is reduced by 26 per cent as a result of the trend in choice of schooling favouring general secondary education of the non-pre-academic type. The original increase of 28 per cent in tranfers to non-pre-academic education caused by this trend has itself been diminished by 9 per cent - representing the increase of transfers from primary to pre-academic education. These two tendencies are shown for three 10-year periods in Table 6, which includes girls as well as boys. Four important facts emerge from this Table:

(a) In so far as it involved an increase in the flow into non-pre-academic education, the change in choice of schooling evolved nearly as rapidly during the last ten years cited as in the twenty previous years.

(b) It caused a still more rapid increase with regard to pre-academic education.

(c) Although the original increase in the flow of entrants to vocational education remained about the same in 1950-1960 as during the preceding ten-year period, this increase shows a diminishing tendency.

(d) In general the increase shown for girls are somewhat more rapid than for boys because of the lower starting figures (see Table 5).

Table 6

Increase of flow from primary to secondary education in percentage of 12-year-olds as a result of original increase (+) and a change in choice from vocational in favour of non-pre-academic and from non-pre-academic in favour of pre-academic education (-)

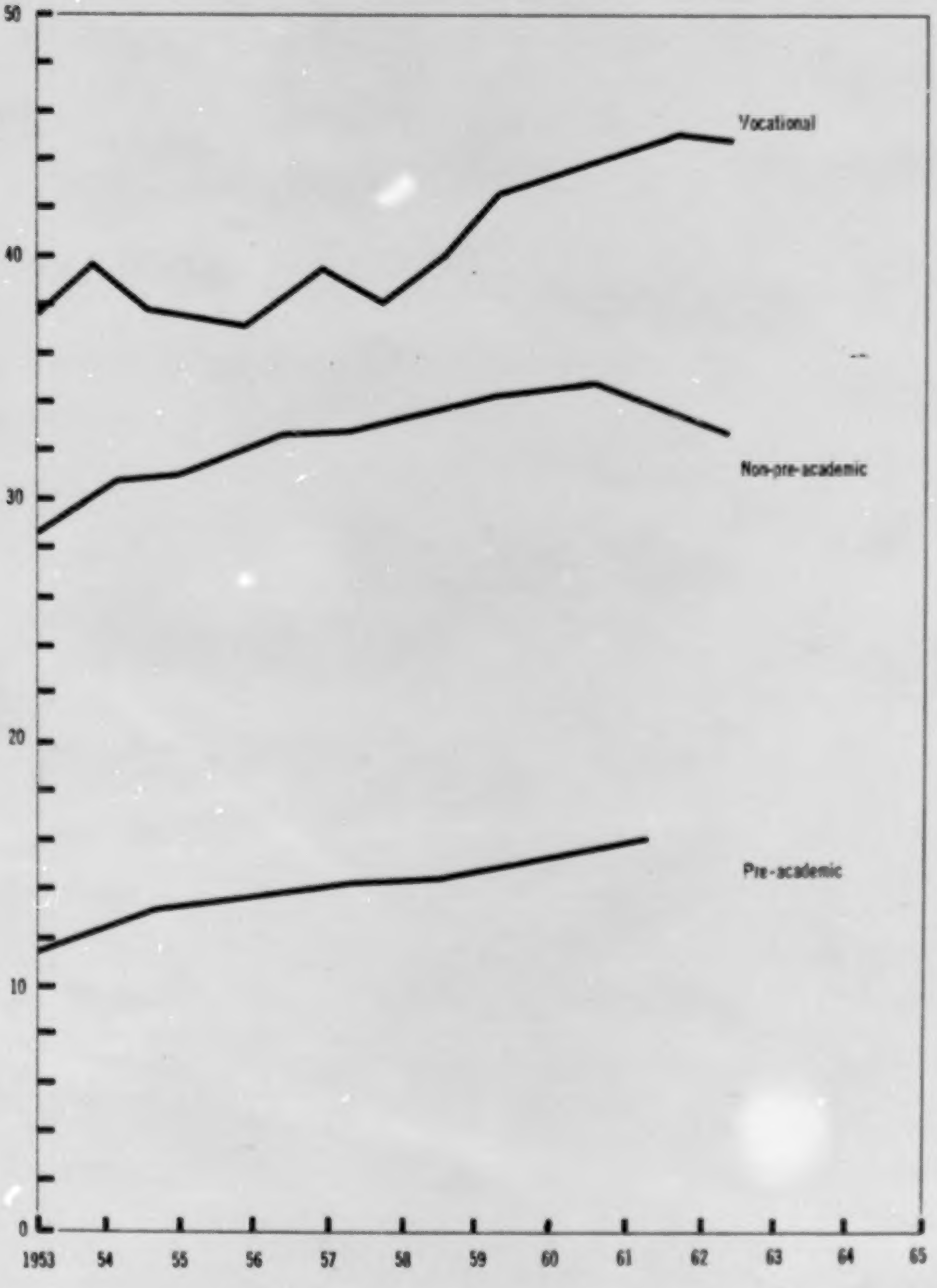
Period	Boys			Girls		
	Vocational	Non-pre-academic	Pre-academic	Vocational	Non-pre-academic	Pre-academic
1930-1940	+13-4=9	+4-1=3	1	+12-4=8	+4-0=4	0
1940-1950	+16-9=7	+9-3=6	3	+23-10=13	+10-3=7	3
1950-1960	+18-13=5	+13-5=8	5	+21-15=6	+15-5=10	5
1930-1960	+47-26=21	+26-9=17	9	+56-29=27	+29-8=21	8

This development is due mainly to a process of urbanisation and of democratisation which, of course, in so far as educational standards in different types of schools are maintained, will be limited by the pupils' capacities. This limit nearly seems to have been reached, especially with respect to the transition from primary to secondary education. As shown in Graph I, transfer to pre-academic education represents the only movement that is still growing. It does so at the expense of transfers to non-pre-academic education, which recently seems to have reached a peak.

Nearly the same is true of transfers to vocational education. During recent years the increase in this flow has also been due to a change in the structure of vocational education; a so-called individual stream has been established within vocational education intended for pupils whose capacities are not up to the standards set for regular vocational schooling. It is clear that an expansion of this type may also be important as a means of improving output. An increase of the input-output rate for secondary education as a whole may be expected, particularly as the result of structural changes that will be made under the Post-Primary Law which is to come into force in a few years.

Graph I

TRANSFER TO SECONDARY EDUCATION
AS A PERCENTAGE OF THE NUMBER OF PUPILS
ADMITTED TO PRIMARY EDUCATION SIX YEARS EARLIER



Also, estimates of both input and output must take into account a change in the duration of compulsory education, which is now 8 years, but which is moving progressively towards 9, and probably 10 years, followed by two years part-time education. Further information on the influence of these two measures will be given in section 3. But before that, we shall deal in section 2 with forecasts, which thus far have been made without taking into account the above-mentioned structural changes.

2. Forecasts

As stated earlier (see Goal 3, Chapter II) the government has to provide adequate facilities for qualified individuals who desire a given type of education. As a consequence, great importance is attached to properly projected numbers of students in the various types of education. In these projections an attempt is made to estimate what is called the social demand for education.

The future number of pupils is estimated by more or less the same methods for different types of education. First an analysis is made of past inflow. On the basis of the results of this analysis the future inflow is estimated. By making use of retention rates the corresponding total enrolment is estimated. And where necessary the number of certificated leavers is estimated by using input/output ratios. Estimates have been made for the major types of education. None of these estimates are regarded as final. On the contrary, they are revised continuously in the light of new statistical material, new developments in the underlying philosophy of what factors determine the inflow, and as a consequence of changes in the educational structure. Examples of these projections are given below for primary education, grammar school education (1) and university education. The selection provides ample possibilities to show the various methodological problems which have to be tackled and which are different for different types of education.

The estimates still presuppose a continuation of the old structure of education. In view of the implementation of the new law on post-primary education, they do not pretend to describe the future situation.

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(1) For a description of the types and names of schools see Appendix II.

They serve as a starting point for discussing possible future development when the new system of education is in full operation.

A. Primary education

Inflow

The following table shows the number of pupils admitted to the first grade of primary school as a percentage of the total number of 6-year-olds.

Table 7

Number of pupils admitted to the first grade of primary education as a percentage of 6-year-olds

1937	97
1943	95
1948	92
1951	98
1954	95
1957	98
1958	101
1959	100
1960	99
1961	100

The table shows that further analysis of admission figures is unnecessary since the precentages have fluctuated around 98 for the last 20 years. This percentage has therefore been retained for the future.

Total enrolment

Total enrolment with a breakdown by grades is estimated on the basis of the following data:

Table 8

Grade enrolment in primary education as a percentage of enrolment in the next lower grade one year earlier(1)

Grade	1954	1955	1956	1957	1958	1959	1960	1961	1962	Average 1954-1962
1	110	111	111	111	111	111	111	111	110	111
2	96	97	97	97	97	96	96	96	96	96
3	98	98	99	99	99	98	98	98	98	98
4	99	99	99	100	100	100	100	100	100	100
5	97	97	98	97	98	98	98	98	98	98
6	91	92	93	94	94	100	98	97	97	95
Total	591	594	597	598	599	603	601	600	599	598

Only the percentages for the sixth grade show some variation. Here again, further analysis is not required.

Given the number of entrants, the number of pupils in the first grade can be estimated at 111 per cent. Enrolment in the second grade one year later will be 96 per cent of first grade enrolment, etc. Repeated calculations of this kind result in an estimate of total enrolment with a breakdown as to grades.

As can be seen, forecasts for primary education require only a few technical co-efficients. This, however, is not surprising in a country with compulsory primary education.

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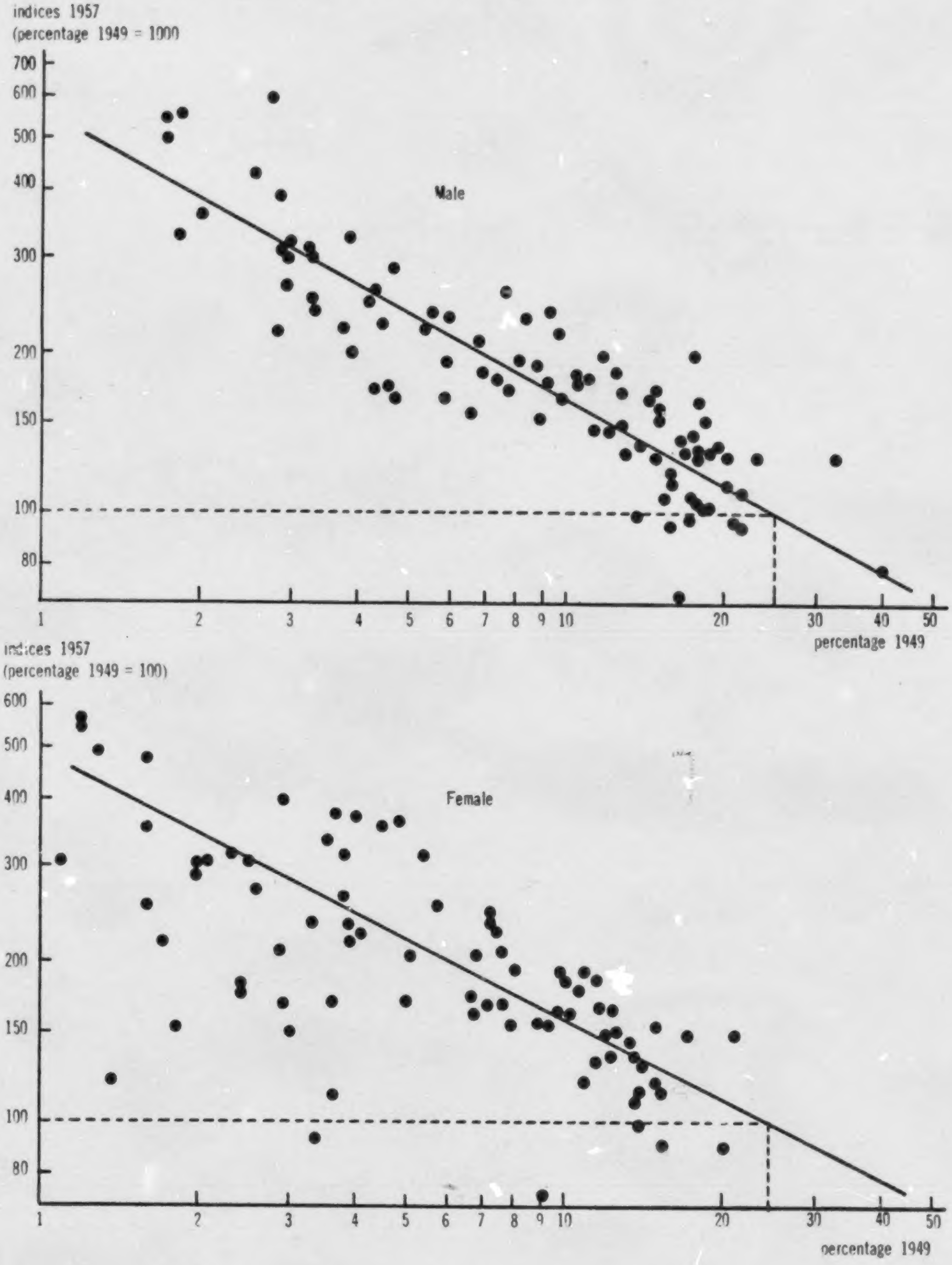
(1) For the first grade, number of pupils as a percentage of the number admitted in the same year.

Graph II

INCREASE BETWEEN 1949 AND 1957 OF FIRST ENTRANTS TO GRAMMAR SCHOOLS AS A PERCENTAGE OF 12 YEAR OLD AND ENTRANCE PERCENTAGE IN 1949



B. Grammar school education

General

Special attention has been given to forecasting grammar school education. Some obvious reasons account for this general interest. The expected further increase in grammar school participation will in the future tend to decrease participation in junior vocational education and the non-pre-academic secondary schools. Further, the expansion of grammar school education governs that of the universities. More will be said in the following section about some analytic factors which have (had) a bearing on the forecasts.

Inflow

Levelling out of regional differences in grammar school enrolment ratios

For statistical purposes the Netherlands has been divided into some 100 regions each covering either one big municipality (towns) or a number of small municipalities. Graph II shows, for these regions, the increase between 1949 and 1957 in the number of entrants into the first grade of grammar school as a percentage of 12-year-olds in relation to the 1949 percentages. The lines in the graph are best fitted to the dots representing regions. The graph shows that there is a strong levelling out of regional differences in grammar school enrolment ratios as increase have been highest in those regions where enrolment ratios in 1949 were lowest. The graphs show that the increase was very low or non-existent in regions where the enrolment ratio was about 20 in 1949. They suggest that the upper limit for the enrolment ratio is about 24 per cent.

Rural and urban regions

The regions can be divided into various categories. Those generally used are rural, urbanised rural, small towns, large towns and dormitory areas.

Table 9 shows the number of entrants into the first grade of grammar schools as a percentage of 12-year-olds.

Table 9

Number of entrants to grammar schools as a percentage of 12-year-olds, by category of region

	Boys			Girls		
	1949	1952	1957	1949	1952	1957
Rural	4.1	5.7	9.3	2.1	3.5	5.4
Urbanised rural . .	5.7	8.1	12.0	2.8	3.9	6.8
Small towns	13.9	14.7	19.1	8.4	10.9	15.4
Large towns	17.0	19.0	23.3	12.2	14.0	17.7
Dormitory	17.2	25.0	25.5	11.6	17.4	20.6

The table leads to the interesting conclusion that less highly urbanised regions have over a period of time attained the enrolment ratios which more highly urbanised areas had already registered.

Further regional analysis

The regional differences in grammar school enrolment ratios are correlated with a number of social factors, as shown in the following table.

It can be seen that the grammar school enrolment ratio is closely correlated with occupation, income, urbanisation, distance to school and intelligence. In order to give due weight to differences in labour force composition between the various regions and at the same time to reduce the number of variables involved, an index for this composition was calculated for all regions. The highest correlation found was between this labour force composition index and the grammar school enrolment ratio (R = 0.89). The following table shows the results of the second stage of the regression analysis, in which different combinations of social factors were used to "explain" the regional differences in the grammar school enrolment ratio.

Table 10

Correlation between grammar school enrolment ratios and various social factors, for 90 regions

	Correlation coefficient	
	Boys	Girls
Number of males in professional and managerial occupations as a percentage of male labour force . . . . (PM)	0.85	0.86
Income per capita . . . . (Ic)	0.79	0.82
Percentage of population in rural districts . . . . (Ru)	-0.75	-0.79
Distance to nearest grammar school . . . . (Di)	-0.74	-0.76
Percentage of population in towns over 20,000 inhabitants . . . . (To)	0.72	0.74
Percentage of army recruits in high intelligence categories . . . . (IQ)	0.71	0.76
Percentage of farmers in male labour force . . . . (Fa)	-0.69	-0.73
Percentage of taxpayers with an income of 6,000 guilders or more . . . . . . (Tax)	0.66	0.63
Number of secondary modern schools as a percentage of the number of grammar schools . . . . (Sec)	-0.63	-0.60
Percentage of non-Church-attending population . . . . (Un)	0.48	0.49
Percentage of agricultural workers in male labour force . . . . (AW)	-0.42	-0.39
Percentage of Dutch Reformed in total population . . . . (DR)	-0.28	-0.25
Percentage of Reformed in total population . . . . (Re)	-0.23	-0.18
Percentage of manual workers in male labour force . . . . (MW)	0.02	0.04
Percentage of Catholics in total population . . . . (Ca)	0.01	-0.05

63

Table 11

Correlation between male grammar school enrolment ratio and various social factors for 90 regions

G(a)	LFC (b)	Sec	Di	IQ	Tax	To	Ru	DR	Const.	R(c)
G =	9.0 (5)								-12.5	0.89
G =	7.9 (7)	-0.56 (23)							-6.1	0.91
G =	7.0 (10)	-0.61 (21)			+0.22 (59)				-6.2	0.91
G =	7.4 (9)	-0.47 (33)	-1.42 (90)						-4.2	0.91
G =	7.8 (11)	-0.46 (35)	-1.60 (81)	-0.04 (144)					-4.3	0.91
G =	5.5 (20)	-0.36 (42)	-4.35 (35)	-0.07 (76)	+0.47 (32)				-8.9	0.92
G =	5.0 (21)	-0.39 (38)	-3.81 (38)		0.43 (34)				-1.0	0.92
G =	7.5 (9)	-0.45 (35)	-3.21 (91)			-0.02 (146)			-2.5	0.91
G =	7.8 (9)	-0.46 (34)	-3.25 (62)				+0.03 (86)		-5.9	0.91
G =	7.8 (8)	-0.43 (35)	-0.37 (350)					-0.12 (36)	-5.1	0.92

(a) Grammar school enrolment ratio; number of entrants into grammar schools as a percentage of 12-year-olds.

(b) Labour force composition index.

(c) Adjusted for degrees of freedom.

The correlation is seen to improve when one takes into account not only the labour force composition but also the number of secondary modern schools as a percentage of the number of grammar schools. The improvement in the correlation when this factor is included indicates that there is come competition between the two types of education.

The table also shows that introduction of a third or a fourth factor does not produce a significant improvement in the correlation coefficient. This result can a o [illegible] formulated somewhat differently.

If due regard is given to the factors labour force composition and number of secondary modern schools as a percentage of grammar schools, no influence can be found for such factors as distance, intelligence, income, urbanisation, etc. Of the two factors, labour force composition index and number of secondary modern schools as a percentage of the number of grammar schools, the first is by far the more important. It can be said, therefore, that regional differences in grammar school enrolment ratios are a reflection solely of the differences in labour force composition.

Composition of grammar school population in relation to social classes

The sharp increase in the grammar school enrolment ratio (see Table 9) has been accompanied by very small changes in the social-class distribution of first entrants, as defined according to their fathers' occupations: (Refer to Table 12 below).

Table 12

First entrants to grammar schools
by social classes

Percentage

Social Class	Male			Female		
	1942	1949	1960	1942	1949	1960
Higher(1)	24	25	24	35	35	30
Middle(2)	51	52	51	46	49	52
Lower(3)	23	21	23	17	14	16
Unknown	2	2	2	2	2	2
Total	100	100	100	100	100	100

(1) Professional and managerial occupations, army officers, owners of big firms, higher ranks in civil service, professors, etc.

(2) Employers and managers of small and medium-sized firms, primary school teachers, warrant officers, middle-rank office employees, etc.

(3) Skilled and unskilled industrial workers, lower-rank clerks, etc.

The social composition of female entrants has come to resemble that of male entrants more closely. This may be due to the fact that their enrolment ratio increasingly approaches that of males.

The following Table 13 shows enrolment ratios by social class.

Table 13

First entrants to grammar schools as a percentage of 12-year-olds for each social class

Social Class	Male			Female		
	1942	1949	1960	1942	1949	1960
Higher	45	50	67	36	45	63
Middle	14	15	23	7	9	19
Lower	4	4	7	2	2	4
Total	10	11	17	6	7	13

Table 14 shows that the increase in enrolment ratios varies only slightly among the three social classes.

Some occupational groups have high enrolment ratios.

Female enrolment ratios are lower than the male, but the difference is smaller when male enrolment is higher.

Forecasts

Several forecasting models have been used but none of them are now regarded as satisfactory.

The first model was based on trend extrapolation. A second was based on trend extrapolation and a maximum level set for grammar school participation ratios. This level was found by extrapolating the enrolment ratios for the three main types of secondary education following directly on primary school. It was assumed that in the same year in

Table 14

First entrants(1) to grammar schools in 1960 as a percentage of the figure for 1949

Social Class	Male	Female
Higher	135	142
Middle	160	207
Lower	150	190
Total	157	175

(1) As a percentage of 12-year-olds.

Table 15

First entrants to grammar schools as a percentage of 12-year-olds, in relation to sex and to occupational group of father, 1957

	Male	Female	Female as percentage of male
Professions	85	80	94
Office employees: higher	85	79	93
middle	68	56	82
lower	20	12	60
Teachers	59	52	88
Owners of firms: with labour force . . .	23	20	87
without labour force . .	9	5	56
Farmers: with hired hands	15	10	67
without hired hands	4	2	50
Non-agricultural labourers	5	2	40
Agricultural labourers	4	1	25

which the sum of these extrapolated ratios became equal to 100 per cent of the 12-year-olds (minus some deduction), the maximum ratio for grammar school education would be reached. This model gives rather satisfactory results only up to 1960. Moreover, it is now considered that the theory underlying this model is out-of-date. Regional analyses suggest that an increase in the grammar school enrolment ratio can be expected as a consequence of a changing labour force composition (more office employees and fewer industrial workers and farmers).

Another model started with three basic elements:

(a) The trend towards a levelling-out of regional differences (Graph II);

(b) A maximum level for the grammar school enrolment ratios (see Graph II);

(c) Diminishing differences in enrolment ratios between rural and urban areas (see Table 9).

The line of reasoning was roughly as follows. As a consequence of the levelling out of social and economic differences, regional differences in grammar school enrolment ratios within urbanisation categories will level out and those between urbanisation categories will diminish. Therefore it was assumed that rural areas in 1974 (end of the forecasting period) would have the same enrolment ratios as the average previously attained in urbanised rural areas; the ratios in the latter would reach the average already attained in the small towns; the ratios in small towns would equal those having previously prevailed in large towns and in the large towns and dormitory areas the maximum level would be reached (24 per cent).

This model, too, is no longer used. The fact that grammar school enrolment is to a large extent determined by labour force composition clearly refutes the theory of maximum levels. It is also difficult to defend a maximum level on the basis of a possible exhaustion of intelligence reserves, since new research into this matter has shown that the best measurements indicate increasing intelligence reserves and therefore, the possibility of higher levels of participation in education.

It will be clear that new long-term forecasts will have to be made which incorporate the experience acquired with the older models and the new research findings on the factors determining inflow into grammar schools. In so far as one can see at present, the basic elements of this model will be:

(a) The future occupational distribution of the labour force and the number of children within each occupational group;

(b) The enrolment ratio within each group.

Additional research will be needed to ascertain what factors determine enrolment ratios for each occupational group. In addition to such factors as income and other trends, the intelligence distribution of the children in the various occupational groups should be taken into account. Analysis of this sort could be restricted to male enrolment as there is a definite relationship between male and female enrolment ratios in the various occupational.groups (see Table 15).

Total enrolment

Given the expected number of pupils newly admitted to the grammar schools, total enrolment and the number of graduates may be calculated with the help of the following tables.

Table 16

Grammar school enrolment by grade as a percentage of enrolment in the next lower grade one year earlier (males)

Grade	1958	1959	1960	1961	1962	1963	1958-1963
1 (a)	119	121	124	125	123	122	122
2	93	91	90	93	94	95	93
3	94	94	93	92	95	100	95
4	90	88	89	88	90	93	90
5	79	80	79	78	80	79	79
6	28	28	28	28	29	28	28
Total	503	502	503	504	511	517	507

(a) As a percentage of the number admitted to the first grade.

(a) The future occupational distribution of the labour force and the number of children within each occupational group;

(b) The enrolment ratio within each group.

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1 (a)	119	121	124	125	123	122	122
2	93	91	90	93	94	95	93
3	94	94	93	92	95	100	95
4	90	88	89	88	90	93	90
5	79	80	79	78	80	79	79
6	28	28	28	28	29	28	28
Total	503	502	503	504	511	517	507

(a) As a percentage of the number admitted to the first grade.

The proportion of graduates may be readily calculated on the basis of the figure on enrolment broken down by grades.

As is shown above, forecasts for grammar school education depend on two kinds of co-efficients: "model" co-efficients (e.g. the number of pupils admitted for the first time to the first grade of grammar schools as a percentage of 12-year-olds), and "technical" co-efficients (grade enrolment as a percentage of enrolment in the next lower grade one year earlier, number of certificated leavers as a percentage of final grade enrolment, etc.). The biggest problem in forecasting the number of pupils in non-compulsory types of education is the proper computation of model co-efficients.

C. University Education

Inflow

The number of freshmen has grown considerably, both in numbers and as a percentage of 18-year-olds.

Table 18

Number of university freshmen, 1900-1961

	Number			As a percentage of 18-year-olds		
	Male	Female	Total	Male	Female	Total
1900	703	28	731	1.5	-	0.8
1910	970	129	1,099	1.8	0.3	1.0
1920	1,645	277	1,922	2.5	0.5	1.6
1930	1,970	498	2,468	2.7	0.7	1.7
1940	3,501	440	3,941	4.2	0.5	2.4
1950	3,715	726	4,441	4.3	0.9	2.7
1960	5,860	1,341	7,201	6.4	1.5	4.0
1961	6,550	1,320	7,870	6.8	1.4	4.1

Male students constitute about 7 per cent of the total number of 18-year-old males. Female participation in university education is only about 1/4 of male participation. The majority of freshmen are graduates of day grammar schools.

Table 19

Number of freshmen with grammar school certificates as a percentage of the total number of freshmen

1930	81.0
1936	81.4
1950	81.7
1960	85.4

Notwithstanding the increased openings for university education created for graduates of engineering schools, teachers' training institutes and higher agricultural schools, etc. (higher vocational education), their relative strength has declined as a proportion of the total number of freshmen. No further major changes are expected. The following will therefore be restricted to freshmen who have graduated from grammar schools.

Transfer from grammar school to university education

Over the years many measures have been taken with a view to increasing the transfer from grammar schools to university education. Since 1900, four universities have been added to the seven already existing, producing inter alia, a more even distribution of universities throughout the country. At the same time, existing faculties have admitted certain categories of grammar school graduates not previously admitted. And the percentage of students studying on state scholarships has increased from about 1 per cent in 1900 to 30 per cent at present.

The transfer percentage, however, has remained constant over time.

Table 20

Number of university freshmen as a percentage of grammar school certificated leavers

	Male	Female
1910	57	20
1920	56	24
1930	50	28
1950	47	19
1960	58	22

Regional analysis, too, shows that the transfer rate of grammar school certificated leavers to the universities can be regarded as constant. There are wide regional differences in the percentages of freshmen as a percentage of 18-year-olds, but there is a very definite relation between the number of freshmen as a percentage of 18-year-olds and the number of certificated grammar school leavers as a percentage of 18-year-olds (see Graph III).

Several models have been used to forecast the inflow into university education. It is now believed that the model which starts with an estimate of the future number of grammar school graduates and then assumes a constant percentage of transfer to the universities should be regarded as the best possible. This is, in principle, a simple model. It goes without saying that the more detailed the forecast has to be (e.g. with breakdowns as to universities and faculties) the greater the number of difficulties and uncertainties encountered.

Total enrolment

For some years statistics have been compiled showing the year in which students were enrolled in universities for the first time. This makes it possible to relate the number of students who stayed x years in universities to the corresponding number of freshmen x years earlier. The following table can thus be drawn up.

Graph III

NUMBER OF UNIVERSITY FRESHMEN
AND NUMBER OF GRAMMAR SCHOOL GRADUATES
AS A PERCENTAGE OF THE 18-YEAR-OLD POPULATION
1954-1956

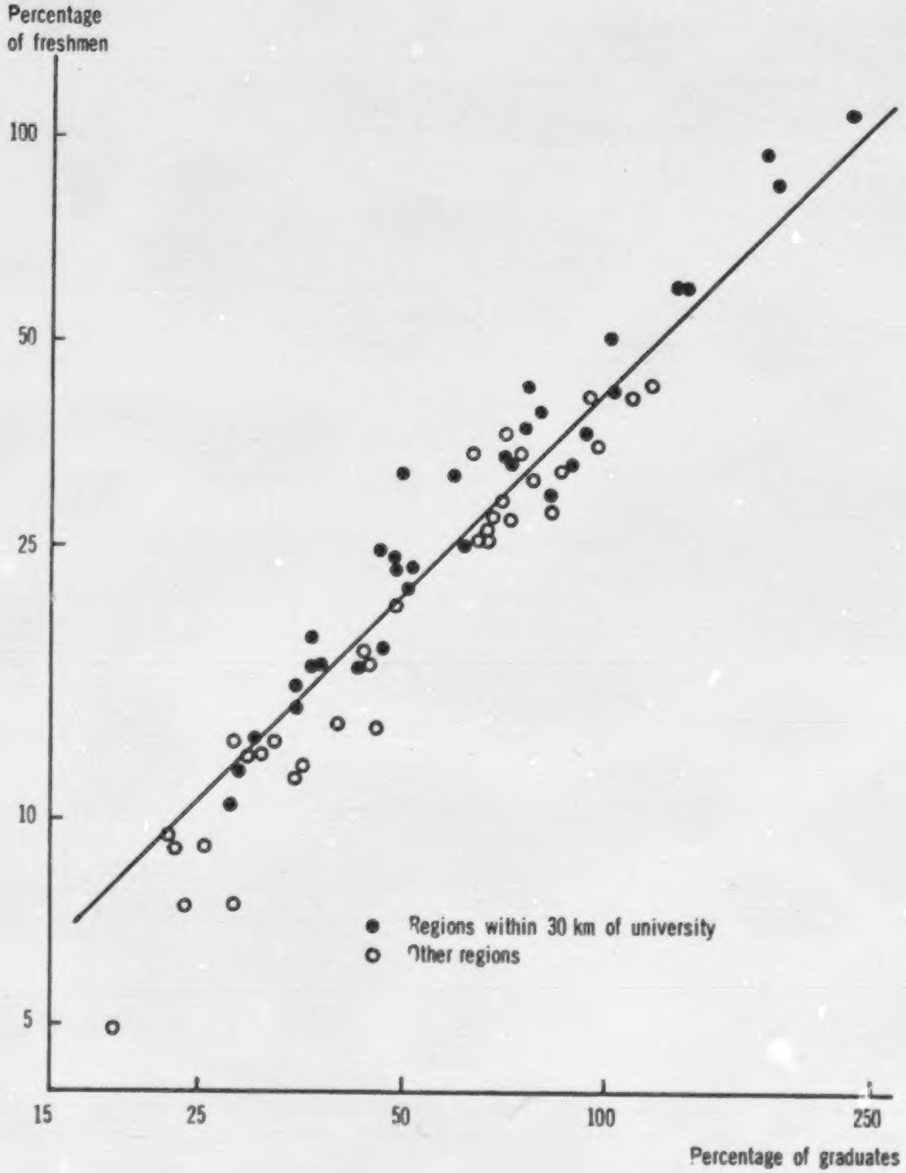

Table 21

Number of male students broken down by number of years since first entrance to universities as a percentage of the corresponding number of freshmen, for each type of faculty

	Number of years since first entrance										
	0	1	2	3	4	5	6	7	8	9	10
Theology	100	85	77	79	72	60	43	33	22	15	12
Law	100	97	93	89	87	58	38	25	18	13	10
Social sciences . .	100	86	109	103	76	79	56	25	16	24	18
Medicine	100	92	92	86	92	76	76	70	49	30	17
Dentistry	100	90	90	87	79	81	60	56	30	21	11
Natural sciences . .	100	88	81	83	78	74	63	55	40	30	25
Psychology	100	96	105	112	101	71	72	53	38	35	18
Languages	100	86	82	75	70	65	53	45	38	21	21
Economics	100	83	72	77	75	64	54	43	26	18	17
Veterinary medicine	100	75	85	100	100	76	66	27	19	15	11
Technology	100	92	83	82	74	65	49	36	18	13	8
Agriculture	100	90	87	67	67	60	41	27	11	16	5
Total	100	89	84	83	79	68	56	44	28	20	14

Percentages are sometimes over 100, and sometimes a percentage in a given year is higher than a preceding one. This is because there is an additional influx from other faculties. The percentages show considerable drop-out. The university course takes 5-7 years officially (the average student takes about 7-9 years to finish his studies), but after five years only about 68 per cent of the freshmen enrolled five years earlier are still at the university.

Although serious efforts have been made to increase the efficiency of university education, no major changes have occurred in these percentages, and they are used therefore to estimate total enrolment on the basis of forecasts of the number of freshmen. The number of graduates is shown in the following table.

Table 22

Number of graduates as a percentage of the number of freshmen, by number of years since first enrolment

	Number of years since first enrolment											Total
	2	3	4	5	6	7	8	9	10	11	12	
Theology	19	36	15	7	3	1	2	-	-	-	-	83
Law	1	5	12	20	12	5	3	3	1	1	-	63
Social sciences	-	-	2	7	4	7	2	2	1	1	1	27
Medicine	-	-	-	-	1	19	20	13	8	2	2	65
Dentistry . . .	-	-	-	8	21	18	8	5	2	-	-	62
Natural sciences	-	-	1	4	13	15	10	5	4	2	3	57
Psychology . . .	-	-	-	5	9	7	7	7	2	1	-	38
Languages . . .	-	1	3	6	13	8	7	4	2	2	1	47
Economics . . .	-	-	2	9	14	10	6	3	3	1	1	49
Veterinary medicine . . .	-	-	-	-	27	18	12	5	2	1	-	65
Technology . . .	-	-	3	9	15	13	7	4	3	2	1	57
Agriculture . .	-	-	1	8	16	12	7	5	2	-	1	52

The efforts made to increase the efficiency of university education do not show up in the percentages computed thus far; the latter are therefore still used to calculate the number of graduates on the basis of the predicted inflow.

D. Summary

The following table gives past and projected enrolment figures for all types of education.

Table 23

Total enrolment by type of education
1950-1975 (x 1000)

	1950	1960	1965	1970	1975
Pre-primary education	340	400	460	520	660
Primary education Continued primary education } . . .	1,240	1,460	1,440	1,500	1,620
Special primary education	35	55	65	85	95
Secondary modern education . . .	130	265	280	280	280
Grammar school education	85	170	210	240	280
Junior technical and vocational education	110	220	235	240	245
University education	30	40	65	80	110
Other	45	100	210	230	260
Total	2,015	2,710	2,965	3,175	3,550

Between 1950 and 1960 the number of pupils increased considerably; in the period following 1960 only a moderate increase is expected. The latter is the result of more or less stable numbers in the school-age population and the fact that the total enrolment ratio in secondary education cannot increase any further, as the 100 per cent level has been reached. Considerable growth, however, is foreseen in university education as a consequence of the increased grammar school enrolment ratio in the period before 1960.

E. Actual enrolment and forecasts

The forecasts for current years are regularly confronted with actual enrolment and, if necessary, forecasts for subsequent years are revised. By this process of continuous checking, the discrepancies between actual enrolment and the latest forecasts are in fact small. Much more interesting is the fact that later forecasts are always higher, and the higher the type of education the greater the disparity between earlier and later forecasts tends to be. Concerning forecasts about university education, the following table can be drawn up.

Table 24

Actual and predicted University Enrolment, 1950, 1955, 1958, 1963 and 1970

Year in which forecast was made	Actual enrolment in base year	Predicted enrolment in 1970
1950	29,000	50,000
1955	29,000	56,000
1958	35,000	65,000
1963	52,000	80,000

The first two forecasts clearly underestimated the number of university students in 1970. They were, however, as important in planning university education as the more recent ones which are more accurate. Published in a period in which the number of students remained stable, they mentally prepared the persons and organisations concerned for a period of rapid growth in student population, requiring great efforts in construction, staff recruitment and financing.

3. Expected influence of the new educational structure

As is mentioned in Section 1, apart from the natural development, on which the forecasts in Section 2 are based, an important influence may be expected from the new educational structure due both to the Post-Primary Law and the lengthening of compulsory education.

To begin with the latter, it should be noted at the outset that a lengthening of compulsory education itself calls for structural changes. This will be clear from the fact, which emerged from an analysis, that extension of obligatory schooling largely affects children who leave primary or secondary school with poorer scholastic records. In the plan made for lengthening of compulsory education, emphasis is therefore also given to two other measures:

(a) A reduction in size of class in primary school in order to improve the possibilities for more individual contact with the pupils;

(b) An expansion of the individual stream within vocational education. (1)

The future will show is these two measures are sufficient for attaining the target set - namely, to provide an education adapted to the capacities of the children concerned. Meanwhile a first step towards lengthening the duration of schooling has been taken by extending to boys a regulation already in force for girls which prohibits 14-year-olds from working unless they attend school at least one day a week in special institutions.

A second step will be a lengthening of compulsory education by one year. In general this 9th year will have to be taken in an institution for full-time education, but those children whose capacities are not considered adapted to existing types of schooling may complete their compulsory education in a part-time institution after having reached the age of 14.

It may be expected that as a result of these measures the percentage of pupils who transfer to full-time secondary education - now about 90 per cent - will rise still further. How fast and to what extent will be determined by the rapidity with which structural changes especially in primary and vocational education are effected. A rapid increase of part-time education however will be a direct result of these regulations. In addition, some influence may be expected on transfer from one type of secondary education to another. For instance, more children enrolled in non-academic secondary schools whose capacities do not suit this type of education will transfer to vocational education than is now the case. The same will be true of individual vocational education in relation to normal vocational education. These regulations may also be expected to have an influence on input-output rates.

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(1) See chapter VI, Section E (c).

Of particular importance to input-output rates are the structural changes that will take place in the near future as a result of the Post-Primary Law.

In this connection, special mention should be made of the so-called L.E.A.O. (introductory education in economics and administration) and H.A.V.O. (higher general secondary education).

It can be estimated that the new types of education mentioned above will affect a considerable number of pupils. Thus - at least in the long run and apart from further developments such as those resulting from transfer from primary to secondary schools - L.E.A.O. may affect about 17 per cent of a school generation and H.A.V.O. about 6 per cent if the current drop-out rate alone is considered, but about 10 per cent if one takes into account other structural changes in this type of education as well as an inflow of students having a non-academic diploma into the fourth grade of the five-year H.A.V.O. programme (1).

In addition to the above-mentioned structural changes some other characteristics of the Post-Primary Law relevant to future student flows should be noted. Among them are:

(a) The establishment of a transitional class in all types of secondary education, thus facilitating selection;

(b) The statutory provision of a system of schools which link up with each other more efficiently, both horizontally and vertically.

The new education system, in so far as it is reshaped by the above-mentioned types of schooling, will not only influence student flows in secondary education but will also have an effect on transfer to higher vocational education. An influence on the student flows from secondary academic to university education may be expected simply as the result of better selection and guidance possibilities built into the new structure. The effect of the transitional class mentioned above on advancement from primary to secondary education is worth noting. It comprises an orientation year for the primary school pupil by introducing him to different types of secondary education. Subsequently, the pupil will be advised with respect to his capacities and the school career he should follow. As for selection and guidance during the remainder of the child's school career, the improved possibilities of transition will undoubtedly constitute a factor of major importance, particularly by facilitating horizontal movement - transfer from one type of education to another - through the establishment of a better-balanced curriculum throughout the system.

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(1) The pre-academic education mentioned in Diagram II is not only pre-university education. It consists of gymnasium, H.B.S., M.M.S. and H.D.S. (see Appendix), the latter two conferring no university entry rights. And the H.B.S., particularly the H.B.S.-A grants this right only in a restricted way. The H.B.S., therefore, will be replaced by a type to be called Atheneum which, like the new gymnasium, permits entrance to all university faculties. The M.M.S. and the H.D.S. will be replaced by H.A.V.O.

Another aspect of the Post-Primary Law mentioned under (b) which is also important in this respect is that it paves the way for establishment of comprehensive schools (different types, under one roof or not, but still coming under one governing body). Also, the planning procedure concerning establishment of schools described in Chapter XI will, by creating a better balanced system of educational facilities, make for improved selection and guidance. Last but not least, it should be noted that in academic secondary education a start is being made on guidance by professional counsellors.

The impact which, in the long term, all this will have on the student flows is at present difficult to foresee especially with regard to higher vocational and university education. Also, the figures given above concerning secondary education are thus far somewhat theoretical. A statistical model therefore is ready to be drawn up dealing with all educational types at one time and based both on forecasts made on developments under the present system and on some hypotheses derived from the targets set by the Post-Primary Law. It will not only be a forecasting instrument but will also serve to identify, as early as possible, deviations - whether general or regional in scope - from the goals established by the Post-Primary Law. It is too early at present to give a full description of this model. A major characteristic is that it provides information which is sufficient for immediate practical purposes, whilst it also comprises a base for refined statistical analysis at the regional level and for other investigations which will give the information needed at later stages.

Chapter VI

EFFICIENCY

1. Introduction

The projected output of the Dutch educational system - which has been dealt with in the preceding chapter - must be seen as a function of the system's total efficiency. The purpose of this chapter is to give to efficiency the attention it deserves as one of the most important considerations in educational planning. Without independent thinking on this topic it is not possible to bring about an integrated approach to planning. One of the most important aspects of educational planning is a continuing evaluation of the level of effeciency. It is not enough to create instruments which are thought valuable for attaining the goals of society and are relevant to education or - within this framework - are considered appropriate for achieving educational goals. To attain these goals, it is necessary to introduce systematically measures which promise to increase the efficiency of the educational system.

2. Aspects of efficiency

With respect to the educational system two aspects of efficiency can be distinguished: external and internal efficiency.

External efficiency designates efficiency of the educational system with a view to reaching the goals of society which are relevant to education. In other words, how does the educational system prepare the people along the lines required by society? To what extent, in what numbers and in what qualities do the people receive such preparation.

It should be observed that any measurement of this efficiency must be expressed in terms of people, in terms of numbers and characteristics of people.

Internal efficiency has to do with the formal institution of education. It is concerned with the optimal use of the resources available to the educational system. These include human resources (the teachers), capital resources (buildings), intellectual resources, e.g. the curriculum and past experience, and, lastly, the organisation of the schools. Another type of resources may be described as marginal: health services, guidance, etc.

All these resources involve costs; hence, the need to finance education and to express plans for the organisation of educational resources in financial terms.

In a sense, one can say that the "internal" aspect is concerned with educational institutions and the "external" with the world outside the educational institutions.

The link between internal and external efficiency as here defined is the fact that one of the inputs into educational institutions comprises the students themselves. The internal efficiency of educational institutions may be expressed as the ratio of the input of students to the output of students. It is to be noted that this is a narrower expression of the idea of efficiency. External efficiency is concerned with the total population appropriate to a given level of education. The total efficiency of the educational system involves the educational achievement of this total population, whether all of it is brought within the educational institutions or part of it is excluded from these institutions. Thus, student drop-out is an indication of the internal efficiency of the school system.

Nevertheless, this drop-out level is a factor in the educational achievement of total population. The number of students excluded from entry to a given level of education is similarly relevant to the total efficiency of the school system. In this sense this differs from the narrower concept of the efficiency of educational institutions.

3. External efficiency

As pointed out in section 2 above, external efficiency is concerned with the attainment of the goals of society which are relevant to education. In other words, by external efficiency is meant the extent to which the goals described in Chapter II are achieved. If these goals are considered one by one, the following factors of external efficiency (among others) can be named.

Goal 1: To develop positive moral and civic values and cultural attitudes among all the people, etc. The extent to which the educational system furthers the attainment of this objective can be measured, e.g. by the social-cultural participation of the population. What are the participation levels of the population as a whole with respect to concerts, plays, films, ballet, literature, art exhibitions, etc.?
It is not possible to provide adequate information about this at the present time. It is necessary to devote more attention to this than has been done thus far in most countries.

Goal 2: To maintain the freedom of religious, social and other groups to pursue and intensify their own development. Whilst in Goal 1 the participation of the population as a whole is involved, this goal takes into account the disparity of participation of social groups. This disparity can result from the fact that some groups aspire to other levels of participation for special cultural aspects or from the fact that the educational system does not sufficiently promote the education of children of these specific groups. The structure of Dutch education must be broad and flexible enough to satisfy the desires of social groups which want to lay stress upon special moral, civic or cultural aspects.

Goal 3: To provide adequate education for all individuals and groups up to the highest level which they demand. This can simply be stated as the obligation for the government to provide enough schools, teachers, equipment, etc. to supply the demand for education now and in future. In reality it means careful forecasting of the number of pupils of all types of schools, the number of schools, the proper geographical distribution of schools and so on. Disparity in participation caused by a shortage of schools in given geographical regions has to be measured regularly.

Goal 4: To provide society and its economy with the resources of trained manpower required for optimum functioning. The availability of all the necessary information about the need of trained manpower at the various levels and according to types of specialised knowledge is not a responsibility of the Ministry of Education, but rather that of Economic Affairs and of Social Affairs. But the educational system has to supply the number of trained people that are demanded. Shortage in supply can be seen as a symptom of less than full efficiency.

Goal 5: To develop a large and increasing capacity in people to adjust themselves to the career and work changes demanded by modern technology. Adaptability and elasticity in thinking must be promoted through special educational approaches, which up to now have been insufficiently used. The level of adaptability in the economically active population is to be seen as a matter of efficiency.

Goal 6: To promote the free development of science, etc., is the final goal and is of a more or less specific character. University education must be of sufficient scope and magnitude (in number of students, in curriculum and finance) to ensure an adequate turnout of scientists. The level at which the formation of new scientists is achieved is to be seen as a factor of efficiency.

The foregoing presents a very sketchy description of the factors of external efficiency, based on a consideration of the goals of society which are relevant to education. It will be clear that by further analysis of these goals and their meaning for education more factors should be defined. The description above can only have an illustrative value.

4. Internal efficiency

As was stated in section 2 of this chapter, internal efficiency is concerned with the optimal use of the resources available to educational institutions. These resources were devided into human resources, capital resources, intellectual resources, organisational resources and finally marginal resources. All these resources involve costs and must therefore also be expressed in financial terms. The difference between external and internal efficiency is that the latter is concerned with problems "inside" the educational system, while external efficiency is a matter of the results obtained by education with reference to the goals set by society.

A. Factors affecting internal efficiency

Among the factors affecting internal efficiency the following can be mentioned:

(a) Teachers. How are the teachers used in the educational system? One can think, for example, of the disparities in the pupil-teacher ratio. Are the training of teachers and provision for keeping their skills and knowledge up to date (in-service training) adequate? Is their capacity maximally used (certification in the schools as related to their actual qualifications to teach)?

(b) Curriculum. Under this heading come such problems as: What subjects are given, how many lessons in each subject are given weekly? Are the subjects given integrated into a unified whole? What is the optimum duration of courses in the different types of schools?

(c) Equipment and facilities in support of the teaching process. What educational materials are used (e.g. modern audio-visual aids) to ensure optimum results? Are buildings of adequate size available in sufficient numbers? Is school construction adapted to the needs of the teaching process?

(d) "Marginal" and supporting services. Are the student health, psychological and social services given to the pupils organised and equipped well enough to increase optimally their school performance. Scholarship and other support to students, such as student housing, counselling and guidance also come under this heading. In section C below, some special attention is devoted to some aspects of guidance.

(e) Organisation. Is the educational system differentiated enough with reference to the need of society for differentiated skills as well as to the variation in capacities of the pupils? Is there enough linkage between the several existing types of education?

(f) Costs. What is the amount of money Dutch society has to spend on education in the future? What are most efficient systems of financing the educational system? In the Netherlands the principle of equal financing of governmental and non-governmental education has given rise to special regulations about subsidising. Attention is given below to some problems arising from the subsidising system.

(g) Structure of relationship between the different types of education. Are all types of schools connected in an optimal structure, so that wrong choice of school can be changed without great difficulties and without loss of much time?

(h) Attitudes and tradition. Are the attitudes of teachers and other educationalists still based too mcuh on traditions which are no longer relevant in the contemporary situation, or have they an open mind with respect to the modern aspects of education? For instance, the general attitude regarding pupils is largely rooted in the past position of higher social classes. This can create difficulties in the approach to pupils of lower social status, who are continually increasing in number.

(i) Teaching methods. What are the best methods that can be used? Are the methods used appropriate to the types of pupils for whom they are used?

(j) Research in innovation. Is enough research carried out to put education on the highest level that is possible in a given time?

B. Key resource inputs requiring particular information

The above factors will be seen to fit very differently into any systematic description of the actual workings of the educational process. In particular, varying degrees of difficulty are encountered in judging the effect of these different factors on the educational process and in gathering data relevant to them.

Some of these factors are open to experimental investigation, others can be the subject of judgment on the basis of the regular collection of data. For the particular circumstances of the Dutch educational system, it is possible to focus attention on key resource inputs, which bear particularly on the efficiency of the operation of that system. On this basis, by way of illustration, it is possible to give enlarged attention in this paper to:

Guidance
Finance
Innovation

C. Guidance

Guidance represents a key input into the Dutch educational system in two different ways.

First, the results of a good and effective guidance programme would serve the need for both internal and external efficiency as defined in this paper and in fact illustrate the relationship between these two kinds of efficiency as here considered. In so far as guidance resulted in improved student performance it would contribute to internal efficiency. In so far as guidance programmes relate the students' school careers to the economic and social needs for particular kinds of trained manpower, such programmes would serve goals external to the school system by helping to meet manpower requirements.

The second way in which guidance programmes represent a key input into Dutch education is in their contribution to a practical attainment of two basic social and economic objectives which underly Dutch education. These two objectives are:

(a) The objective of allowing the people freedom to pursue courses of study based on individual choice;

(b) The objective of meeting particular economic manpower needs.

It is obvious that the educational system can only fulfil these two goals simultaneously in so far as individuals tend to choose their programme of studies voluntarily on the basis of knowledge of economic and social opportunities, which would be provided by a fully developed guidance programme.

The operation of guidance programmes may be more specifically considered in terms of their role in promoting the efficiency of the educational system. Usually guidance is considered as being of two types; i.e. educational guidance and vocational guidance. Educational guidance is usually understood to mean the services provided by school counsellors and members of the teaching staff, who follow the development of the pupils and help them solve their personal problems. Vocational guidance consists of providing information on work careers and is playing an increasingly important role both within and outside the school.

In the Netherlands, educational guidance is part of the educational system itself, while vocational guidance is carried out by Labour Offices, by guidance institutes established by municipalities and denominational organisations, and by private institutes.

In view of the three-fold division of the Dutch educational system, a national approach to educational guidance is not easy to achieve. It is even difficult to obtain an overall view of the total field of activities.

The new Post-Primary Education Act opens up possibilities for a strong development of educational guidance. At the same time, a need is increasingly being felt (and being expressed in Parliament) to set up a legally regulated system of what is called "marginal" service institutes. Marginal services, as defined here, do not concern the educational process as such, but comprise such activities as medical, dental, psychological and social assistance and other similar services. Vocational guidance might also be provided in such institutes.

Some institutes of this type are already in existence, though no legal framework yet exists.

The development of guidance in the Netherlands may be expected to make new progress in the next few years. In addition, a large-scale experiment will probably be launched in a few months time dealing with all the problems of the transition of pupils from primary to secondary schooling. This experiment, to last five years, will be concerned with problems of selection, testing, guidance and observation; the subject pupils will have been followed from the fifth grade of primary school to the end of the second grade of secondary school.

D. Finance

The finance input is the key to controlling the real inputs into the educational system. Therefore the basis upon which decisions are made on the level of financing for various parts of the system must be sufficiently rational to result in a deployment of real resources which reflects the objectives they are to serve.

In the Netherlands there has existed for more than 40 years the principle of equal financing of governmental (State and municipality) and non-governmental (denominational and non-denominational) schools. It will be clear that this principle is, in practice, the cause of many problems. Some of them will be dealt with here.

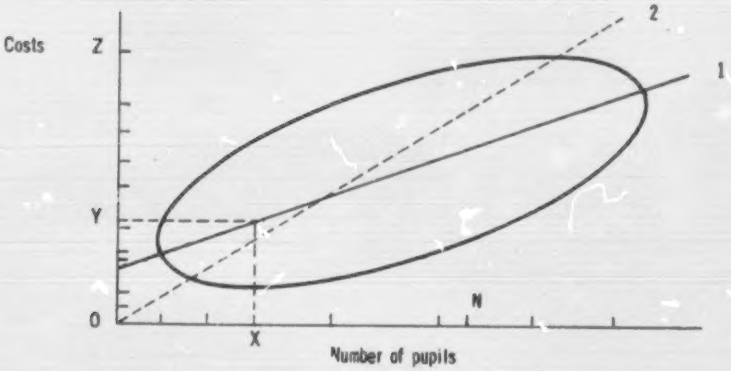
The conditions for State financing of non-governmental schools are the same as the regulations which are in force for governmental schools. However, for governmental schools they are of the nature of binding regulations, whilst for non-governmental schools they are to be regarded as the terms on which a grant is made. They consist of requirements concerning teachers' qualifications and the curriculum and regulations for State inspection.

In implementing the principle of equal financing, not only do the different regulations for different types of schools mentioned in Chapter III vary according to the nature of the type of school concerned, but variation is also often due to a development in technical approach. Thus, for instance, in primary education, where the oldest regulations in this respect exist, subsidies of operational costs for non-governmental schools are simply based on the average costs per pupil in governmental schools in the municipality concerned, thus neglecting the fact that this sort of cost is only partly correlated with the number of pupils per school. As the result of a development in statistical analysis, however, more recent regulations take this fact into account, while other factors which influence costs are also, as far as possible, taken into consideration.

The difference between the older and more recent regulations with respect to the "fit" of school costs, according to school size, to government grants to schools, is illustrated in diagram V below.

Diagram V

OPERATIONAL COSTS PER SCHOOL
IN RELATION TO SCHOOL SIZE



In this diagram X = the average school size and Y = the average operational costs, in both cases for governmental schools.

Curve number 1 represents the cost function as far as it is due to school size derived from the real costs of the governmental schools concerned which lie within the area represented by the ellipse.

Curve number 2 represents the amount of the grant given to non-governmental schools if regulations are based on the average cost per pupil.

As can be seen from this diagram the amount is systematically too low for small schools and too high for large schools. Also, the total amount given to non-governmental schools is too high if the average size of such schools is higher than that of governmental schools and is too low in the reverse situation.

The ellipse in the diagram shows that it is important to take into account factors other than school size as measured by the number of pupils. To some extent this is done in a regulation on subsidies for secondary pre-academic schools in which a fixed amount independent of school size and amounts depending both on the number of pupils and of classes are included as factors. Still, for individual schools real costs sometimes deviate to a considerable extent in both directions from the standardised amount. Thus far, however, mainly because of lack of sufficient relevant data, it has not appeared possible to find a better formula.

Of course it would be illusory to believe that regulations could be designed which would implement the principle of equal financing in such a way that costs of non-governmental schools exactly correspond to those of governmental schools in a comparable situation. This, however, will be facilitated as the development of cost analysis proceeds; at the same time, whether or not existing regulations are felt to be satisfactory is a fact that also plays an important role.

Since school costs appear to be of a very complex character, the degree of complexity of the type of school involved is also a factor in determining whether or not regulations on subsidies are based on a mathematical formula as described above. For very complex types of schools - or cost structures, such as the operating costs of technical schools - subsidies for non-governmental establishments are given on the basis of detailed accounting by each school individually, those costs being rejected which cannot be accepted as normal. Another reason for such a procedure in this case is that there are relatively few governmental schools in this sector, so that there is no basis for comparison.

Apart from practical difficulties, however, there is a general tendency towards standardisation of the amounts of grants, so that statistical cost analysis appears, in this respect also, to be an important planning activity. However, for this purpose such analysis is more complicated since it requires dealing as much as possible with micro-structure instead of with macro-structure, which for other purposes is generally adequate.

E. Innovation in education

A key to the re-arrangements of resource inputs into the educational system so as to increase its efficiency is the effective introduction of innovation into the educational process.

As mentioned in Chapter III, innovation in education in the Netherlands is carried out by the pedagogical centres and as far as educational research is concerned mostly by university pedagogical institutes. In Chapter IX dealing with the structure of educational planning, information is given on the organisation of the activities of these centres and institutes.

Pedagogical research presently covers a wide range of subjects; the most important are mentioned below:

(a) Experiments with new types of schools which will be introduced - as a result of the new Post-Primary Law - within a few years. Experimants are being carried out with respect to:

- Athoneum (modern grammar school)
- H.A.V.O. (higher general secondary education) (non-pre-academic)
- L.E.A.O. (lower economics and administrative education)
- M.E.A.O. (middle economics and administrative education)

The pedagogical centres choose a few schools of their own denomination as subjects of these experiments, which deal with the makeup of the curriculum, the teaching methods to be employed and the level of education to be attained.

(b) Experiments to improve education in existing types of schools:

- U.L.O. (modern secondary education)

- teachers training colleges
- L.T.O. (junior technical schools).

These experiments are designed to test newer teaching methods.

(c) Experiments for better adaptation of education to some groups of pupils

- I.T.O. or C-stream (less capable among L.T.O. pupils)
- A-stream (the more capable L.T.O. pupils).

The purpose of these experiments is to elaborate special programmes for certain groups of pupils in the elementary technical schools. Because of the great disparities in capacity among these pupils, it is considered necessary to create separate branches for pupils of below and above-average ability. The programmes for less able pupils tend to stress a more practical (and less theoretical) type of education, and those designed for the above average, a more theoretical (and less practical) type.

(d) Research on selection and on effectiveness of education

- Talent project (research on social factors which hinder the optimum selection and use of talent).

This project concerns the exploration of reserves of talented pupils with a view to democratising the Dutch school system. Thus far to few highly talented pupils from the lower social classes have entered the higher educational levels.

- Motives behind choice of school
  This project is aimed at elucidating parents' motives in sending their children to given types of schools, thereby making it possible to establish a better selection and guidance system.
- The problems of retardation
  This project has to do with the psychological reasons for pupils' failure to advance to a higher class in grammar schools and modern grammar schools. The results can be of use to teachers in dealing with pupils who have learning difficulties.

(e) Research on study programmes

- Research on three-year L.T.O. course (junior technical school).

This project is carried out by a pedagogical research institute and involves, in the initial stage, experimentation on a curriculum for the first grade of the elementary technical school (orientation year).

(f) Improvements of education methods

- Arithmetic project
- Geometry project
- Research on the usefulness of language laboratories.

These projects are limited to one curriculum subject and are designed to lead to the elaboration of improved methods and hence improved pupil performance.

The above-mentioned research projects are to be regarded only as examples. Numerous other projects of different types are being undertaken. These research projects are carried out in collaboration with the teaching staff of the schools concerned. In most cases study groups are formed, composed of teachers and of staff members of the pedagogical centres. In cases where special topics under the experimental programme are studied by the pedagogical institutes of universities, members of those institutes also join such study groups.

A great problem is the coordination and planning of research projects. That is why a foundation has been created which has to develop a research policy (see chapter IX).

The Ministry of Education and Sciences usually grants a salary increment to the teachers of the schools involved to recompense them for their additional activities. Information on the introduction of results of research and of experimental work is given in Chapter IX

F. The effort to change the educational system

In February 1963 Parliament passed a new law on post-primary education, which - due to the big field the law covers - is usually called the "Mammoth Law". The new law has not yet come into force.

It will take a number of years to organise a good transition from the old to the new system. It may be expected that in the course of 1968 post-primary education will be regulated by the new law.

What were the motives behind the adoption of a new law? Over the centuries education in the Netherlands, as in most Western European countries, has developed into a somewhat chaotic and illogical whole as a result of various laws passed at different times. Secondary education alone was regulated by six saparate laws or portions of laws, while some types of education did not have a legal basis at all.

In the past fifty years more than one attempt has been made to re-organise the educational system, without notable results. During the last ten years, several laws were passed with the aim of providing a balanced system of education; i.e., the Infant Education Act (1956), the Academic Education Act (1960), the Post-Primary Education Act (1963).

The Post-Primary Education Act regulates the whole field between primary education and university education. For the difference between the old and the new system of post-primary education see Appendices II and III.

One of the most important educational objectives of this law is the wish to create a balanced system of education. This is done to increase the output of qualified graduates. By knitting together rationally all types of schools into a unified whole, the connecting links facilitate the re-orientation of a school career in which a mistaken initial choice has been made. Accordingly, it should be noted that in considering output, one must not look at one type of school independently of all others, but rather at all types together. For, in practice, a large number of pupils who drop out of one type of school enroll in another (mostly lower) type. In other words, not all drop-out is real drop-out, but mostly represents re-adjustment in the choice of school.

The ideal behind the new law is to provide a school system organised in such a way that the total inflow of students leaves school certificated after a given number of years. The certificate will not always be that of the first school chosen and will, in fact, often be of a lower type. But the main difference from the old system is that pupils will not have to leave school without any certificate at all.

To attain this ideal, the law contains provisions designed to effect:

(a) A greater differentiation than now exists with regard both to types of schools and streams;

(b) The introduction of a transitional year as a link between primary and secondary education;

(c) A more planning-oriented system for establishing schools;

(d) Better connections between the different types and levels;

(e) A more modern curriculum for the different types of schools.

Although the new system is not yet in operation, it is possible for a limited number of schools to acquire experience with it. The Experimentation Act of 1963 provides the Minister of Education and Science with the possibility of giving schools more freedom than the normal laws permit. On this basis, a number of schools of different types are experimenting under the supervision of the pedagogical centres. It should be pointed out that the new law creates only a legal framework of possibilities which can be used. These measures towards changing the school system, within the framework of the school laws, are essential if the schools are to serve the goals of society relevant to education.

G. Standards of efficiency

In the introductory paragraph of this chapter the need for a systematic introduction of measures to increase efficiency was mentioned. Therefore, it is necessary to deal with the question of standards of efficiency: in other words, the goals to which education is directed must be translated into quantitative terms as far as possible. When these standards are established, it becomes possible to measure the effectiveness of all elements of the educational structure. In this way the real efficiency of the educational system can be seen.

One of the most important standards resides in the ideal that the new educational system should result in an output of 100 per cent certificated pupils. The descriptive model of recent student flows given in diagram IV presents evidence on the extent to which this objective is now attained. However, where this goal is not reached, the model does not give information about the hindering factors. To locate them, more detailed models will have to be constructed. In this way a system of models can be built, which, together, will make it possible to pinpoint in time the points at which efficiency is below the desired or expected levels. To construct such models, it will be necessary to take into account all the aspects mentioned in Sections 3 and 4. The desired levels of efficiency must be determined in quantitative terms; otherwise it will not be possible to compare actual efficiency and desired efficiency. At present, it is not yet possible to describe models for all the aspects of efficiency that are involved. Much research must be undertaken before this can be done. Only when such a system as mentioned above is worked out, can one speak of integrated, systematic educational planning which is one hundred per cent directed towards the goals to be attained.

Chapter VII

MANPOWER DEMAND

1. General

In trying to reach the manpower goal, i.e., to provide society and its economy with the trained manpower required for optimum functioning (see Chapter II) heavy reliance is placed on the students (or their parents) to bring about the required distribution over the various types of education. Vocational guidance and manpower forecasts are seen as instruments to serve the students in making correct decisions.

One can hold the opinion that by and large the distribution of student choice over the levels of education has been more or less correct. There are in any case no clear indications to prove the contrary. As regards levels of education, a balance between supply and demand is, in the long run, automatically achieved by the fact that economic development, which requires more highly skilled personnel, is accompanied by increasing income per capita, which stimulates the demand for more education at a higher level.

Within the various levels of education shortages or surpluses occur regularly. This is not very serious in the cases of jobs requiring only a short training period; experience has shown that students, training institutions and employers react rapidly enough to arrive in a relative short time at a new balance between supply and demand. For jobs requiring a long training period this is clearly impossible and therefore manpower forecasts - in so far as they are connected with educational planning - have been restricted to university-trained personnel and some categories just below university level (college-trained engineers, social workers, primary school teachers).

The results of these studies are used for job guidance purposes and for getting some indication as to what changes can be expected in the social demand for specific types of education or field of studies assuming that in the long run social demand for a given type of education will be influenced by the labour market situation or prospects for graduates. In the recent and planned expansion of universities due regard has been given to the different development prospects foreseen for the various faculties.

Manpower surveys and forecasts have been made regularly by official and private organisations to study current and future supply and demand patterns for specific occupation groups; e.g., nurses, army officers, farm hands, etc. These studies, undertaken in view of actual or expected shortages, aim primarily at improving the implementation of labour market policy and at making more efficient use of available manpower rather than at adjustment of the educational organisation.

One might agree that this piecemeal approach, which does not take into consideration all occupations at the same time may lead to the wrong conclusions. This objection, however, is not as serious as it may sound. There are a number of checks on the validity of forecasts; in the case of university-trained personnel, for example, there is the numerical relation between this type of personnel and the category immediately below (university engineers and college engineers), between the number of engineers and that of graduates in science. Forecasts of the number of university freshmen as a percentage of qualified grammar school leavers should be checked with forecasts of other competing demands for these leavers etc.

Forecasts covering all types of occupations and/or levels of education would give only one additional and rather meaningless checkpoint, i.e., total supply and demand of workers regardless of their level of education. This checkpoint, important as it may be in manpower planning considered as part of economic planning, is not of much use in manpower planning in relation to educational planning.

Forecasts of supply and demand for university graduates are discussed below.

2. The demand for university graduates

General (1)

Demand for university graduates has been defined as the number of suitable posts available at a given moment. The demand for university graduates is usually dependent on structural factors, the economic situation and the salary or the fees for services of graduates, whether or not compared with those of potential competing groups with a less highly-rated training (secondary education, engineering colleges, part-time study, in-service and on-the-job training).

In making the estimates there has been an endeavour to follow the structural trend of the demand for persons with university training. The structural factors that determine the demand for such persons proceed from society and from the universities themselves.

Among the factors proceeding from society we may mention: increasing population, growing prosperity (which creates a demand for more skilled personnel of a higher standard), increasing production effected by increasingly complicated methods, growing demand for post-primary education (causing a rise in the demand for university-trained teachers, for example), the ever more complicated forms of social organisation, statutory and social provisions, etc.

On the other hand, the inflow into academic education and the advance of knowledge and scientific research have opened up more and more new spheres of activity graduates, thus stimulating the demand for them.

The factors mentioned are closely interrelated: for instance, the continued advance of knowledge and a steady increase in the number of university graduates are essential if prosperity is to increase still further.

In the past, economic fluctuations exerted a noticeable influence on the demand for university graduates. However, there are acceptable grounds for supposing that in future it will be possible to stabilise the country's economic growth at a reasonable level. The influence of economic fluctuations can therefore be disregarded.

The influence of the salary or the fees for services of university graduates (whether or not compared with those of potential competitive groups) cannot be ascertained from the available statistical material. That factor has therefore benn disregarded. In so far as there may be a structural tendency in the payment of university graduates, it is implicitly included among the structural factors determining the demand for graduates.

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(1) For detailed in information see :"The number of university graduates in 1980; Demand and supply". Zeist 1959. (In Dutch).

If it is assumed that the structural factors will develop in the future as in the past, it can be presumed that the past increase in the number of graduates provides an indication of future demand. It must be kept in mind, however, that is is not certain whether the numbers of graduates in the base years give a reliable indication of the structural demand in those years. For instance, the economic situation, certain phases in the advance of knowledge, or an interruption of the regular supply of graduates, may have caused a surplus or shortage of graduates which could not be taken into account because it was impossible to assess thier extent. This introduces an extra element of uncertainty in the estimates.

Despite these limitations, future needs have been estimated by extrapolation, on the assumption that the tendency to increase will persist. Where the demand for graduates is governed by clearly defined variables, the latter have been assessed for the future.

So, when assessing the demand for secondary school teachers, the (future) size of the age-group from which secondary school pupils are recruited, the growing relative interest in education at secondary school level, the number of pupils per class and the number of lessons per teacher are taken into account.

When assessing the demand for veterinary surgeons, the increase in the number of cattle in the country is a determining factor, and when assessing the demand for engineers the growth of production is taken into account.

3. Examples

Two examples are given below of the methods of assessing the demand for persons with university training.

Doctors

When considering the demand for medical services, there are three different factors that must be taken into account, i.e.:

(a) Changes in consumers' habits and in the nature of the services required. Such changes make themselves felt only gradually and it is often difficult to trace their causes. Possible causes are: the progress of medical science; the improving understanding of proper medical care, increasing value attached to preventive medicine, etc.

(b) Changes in consumers' real income;

(c) Changes in the fees for doctors' services, compared with the cost of living.

Under (a). The factors mentioned here will lead to a continuous increasing demand for medical services. Past experience shows that all factors taken together may lead to an increase in the required number of doctors to total population of about 1 per cent annually.

Under (b). Effect of income on demand.

If the relation between income and expenditure on doctors and hospitals of a number of Dutch families is compared, an elasticity is found of about 1.1 (cf. Graph. IV). That is to say, when income per capita rises by 10 per cent the expenditure in question will rise by 11 per cent.

Under (c). Lack of data made it impossible to calculate the influence of price (fees) on the demand for medical services. It has been assumed that the "real price" of doctors' services will remain constant.

The estimated demand for doctors, based partly on the above analysis, is shown in Table 25 below.

Engineers

When assessing the future demand for engineers, the relationship between the number of engineers employed in the Netherlands and gross national product (G.N.P.) for the period 1900-1956 was used (see Graph V.) It is true that this reveals a trend correlation only. The correlation is, however, theoretically acceptable, for it presupposes that an expansion of production must be accompanied by an increase in the number of engineers. It is all the more acceptable in that a cross-section analysis showed an analogous relationship.

Graph IV

EXPENSES FOR MEDICAL CARE
AND AVERAGE INCOME
(600 families)

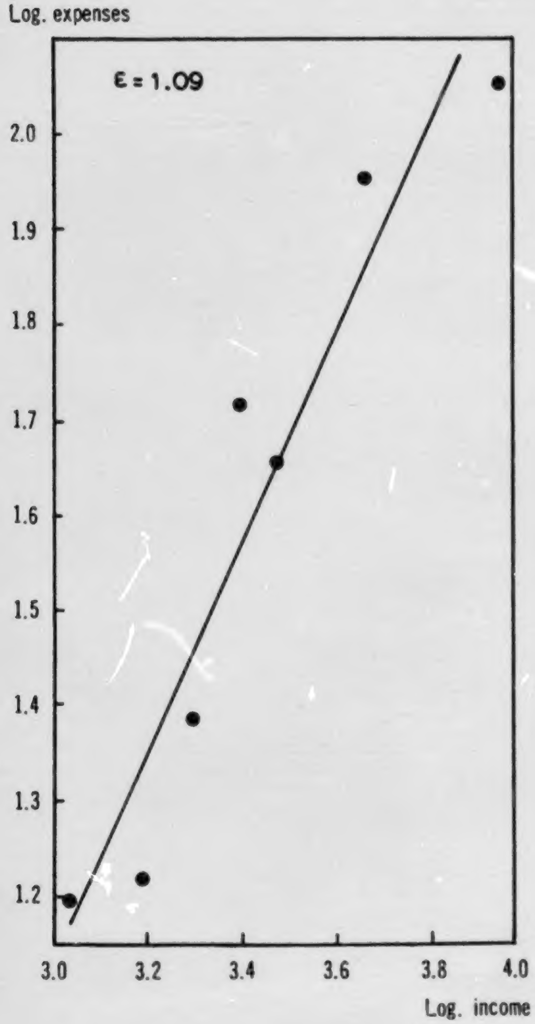


Table 25

Demand for doctors

	Population x 1,000,000	Number of doctors per 1000 inhabitants	Demand for doctors
1957	11.0	1.004	11,000
1960	11.5	1.024	11,800
1970	12.7	1.090	14,000
1980	13.9	1.151	16,000

All different types of engineers were correlated with gross national product. It would have been theoretically more acceptable if the various types of engineers had been correlated with indicators more representative of their specific fields of work. In the case where this was statistically possible analogous relations were found. This is not surprising, as, for instance, the total amount of construction work or production in the metal industry is highly correlated with G.N.P.

The results of the assessment of the demand for engineers are shown below (table 26).

Table 26

Demand for engineers

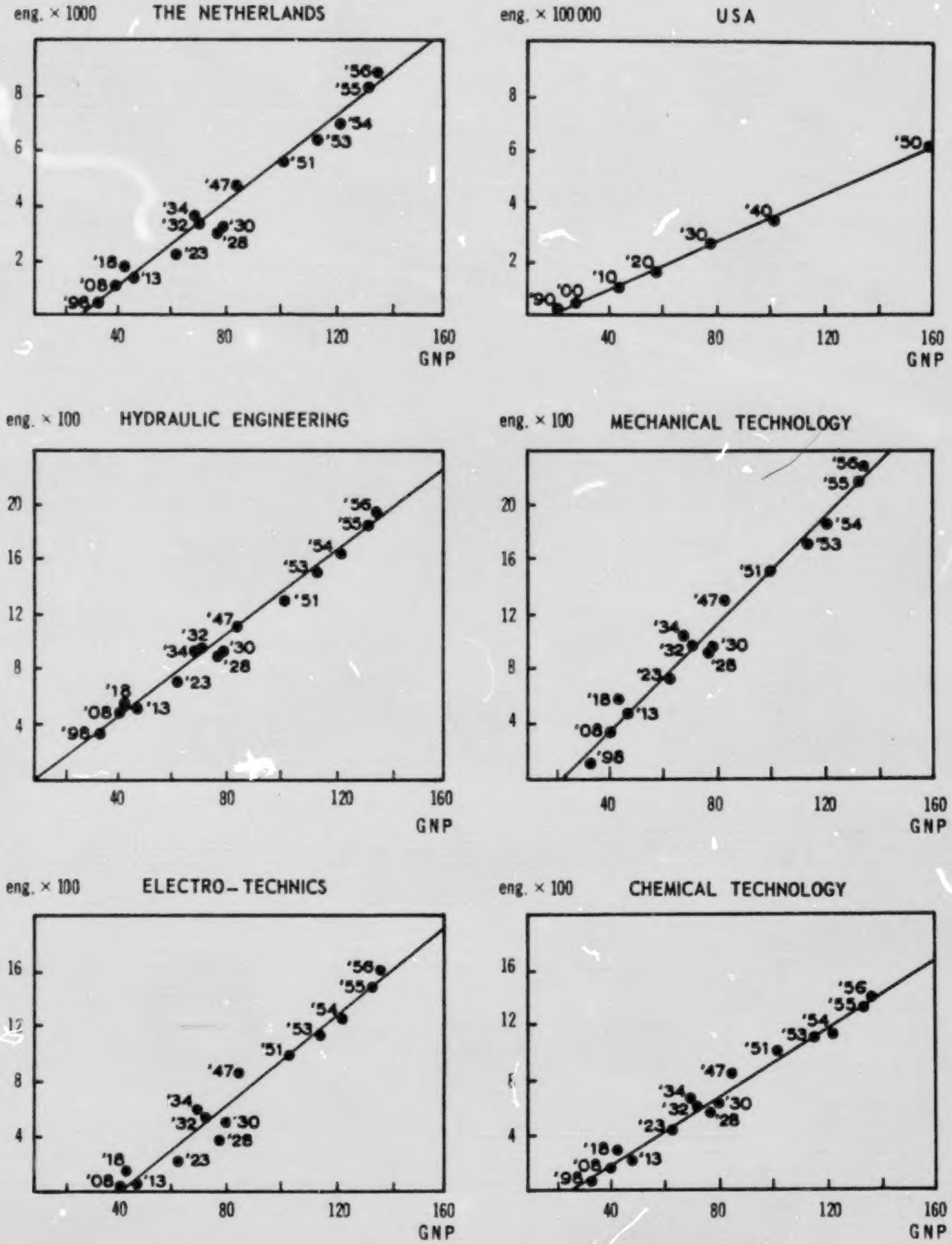
	1960	1970	1980
Civil engineering	2,100	2,900	4,000
Mechanical engineering	2,600	3,700	5,300
Electro-technical engineering	1,800	3,000	4,600
Chemical engineering	1,600	2,300	3,400
Physical engineering	600	1,300	2,200
Other	1,200	1,700	2,400
Total	9,900	14,900	21,900

Graph V

NUMBER OF ENGINEERS AND GROSS NATIONAL PRODUCT

1900 – 1956

(Gross National Product 1949 = 100)



4. Total demand for university graduates

Table 27 shows the results of the estimates. The numbers of university graduates for past years have also been included.

Table 27

Number of graduates

	1900	1930	1955	1970	1980
Medicine	2,480	4,700	10,200	13,790	15,970
Dentistry	170	800	2,160	4,050	5,540
Natural sciences	1,000	2,150	4,160	8,900	13,400
Languages	350	1,450	3,080	5,630	6,130
Geography		50	460	930	1,060
Law	3,200	4,240	9,480	12,400	14,250
Economics		230	3,500	7,600	11,150
Social sciences			110	1,120	2,150
Psychology			250	1,370	2,240
Technology	700	4,530	7,630	14,850	21,950
Veterinary medicine . . .	310	670	990	1,230	1,390
Theology	2,100	2,250	4,000	4,690	5,730
Agriculture	40	350	1,800	2,520	3,730
Total	10,350	21,420	47,820	79,080	104,690

When demand for graduates is matched with the supply (1) forecast, the following picture of shortages and surpluses emerges.

---

(1) Calculated on the basis of a forecast of grammar leavers and constant transfer ratios for the various faculties.

Table 28

Shortages and surpluses of graduates as a percentage of the demand for university graduates

	1960	1970	1980
Medicine	+ 4	+ 6	+ 24
Dentistry	- 16	- 36	- 43
Natural sciences	- 14	- 11	- 1
Languages	- 22	+ 17	+103
Geography	- 13	+ 40	+148
Law	- 6	- 22	- 24
Economics	- 11	- 16	- 11
Social sciences	- 8	+ 41	+ 77
Psychology	- 13	+ 17	+ 60
Technology	- 7	- 19	- 13
Veterinary medicine	+ 8	+ 14	+ 47
Total (a)	- 7	- 8	+ 5

(a) Including theology and agriculture.

There are great differences in the trends of shortages and surpluses in the various branches of study. For instance, the great shortage of graduates of the language faculties in 1960 is expected to become a surplus by 1970 as a result of a rapid decrease in the demand for such persons after 1965, due to the small increase in the numbers of grammar school pupils.

The shortages in technology and dentistry are expected to increase steadily, while those in natural sciences and economics will decrease after 1970. A growing surplus is expected in medicine and veterinary medicine and, after 1970, in psychology.

The shortages in law and economics must be seen in relation to the surpluses in social sciences and geography, as graduates in any of these four subjects are to a certain extent interchangeable from an employment point of view.

5. Consequences with respect to choices of faculty

If it is assumed that supply will have to be adjusted to demand in the years between 1955 and 1980, considerable changes will be necessary in choice of faculty.

Table 29 gives the average percentual distribution of first-year students as among branches of study for 1955-1957 on which the calculation of supply is based and the required distribution in subsequent 5 year periods if the demand for graduates seven years later is to be met.

Table 29

Average percentual distribution of first-year students as among branches of study

	1955-1957	According to demand 1958-1962	1963-1967	1968-1972
Medicine	12	11	10	10
Dentistry	2	4	4	4
Natural sciences	15	15	16	17
Languages	13	9	5	4
Geography	3	1	1	1
Law	7	12	10	10
Economics	11	13	14	14
Social sciences	6	3	4	4
Psychology	4	3	3	3
Technology	21	23	25	26
Veterinary medicine	1	1	1	1
Theology	3	3	3	3
Agriculture	3	3	4	4
Total	100	100	100	100

It will be clear that the demand percentages are in a sense target figures for guidance services.

Much attention has been given to an intensive and effective dissemination of the results of the demand forecasts. The influence of such guidance can be ascertained by comparing the actual changes in the distribution of freshmen as among the various faculties with the required modifications in distribution. On finds thus far this influence has been negligible. It is possible, however, that in the long run such an influence will be ascertained.

6. Actual demand and forecasts

Except in the case of medicine, the forecasts seem to be rather satisfactory for the period 1959-1965.

New demand studies which have been made for some categories of graduates show, however, a far greater demand for 1980, e.g. for grammar school teachers, medical doctors. This clearly indicates that forecasts should be made regularly in order to supply educational policy makers and vocational guidance services with up-to-date information about future employment possibilities for graduates.

Chapter VIII

SOME TARGETS

1. General

It will be clear that only some of the goals relevant to education (Chapter II) can be expressed operationally as targets for educational policy. For example:

> Goal 3: to provide adequate education for all individuals and groups up to the highest levels of education which they demand;
>
> Goal 4: to provide society and its economy with the trained manpower resources required for optimum functioning (See Chapter VII).

It goes without saying that general acceptance of the results of further research on the problems of efficiency in education (see Chapter VI) may lead to the formulation of targets concerning the structure, content and operation of the educational system. One such target that may be mentioned is the implementation of the law on Post-Primary Education to begin in 1968. Most other new development will, however, be introduced on an experimental basis and will gradually spread to the various schools.

With this in mind, it can be said that the major, well defined targets of educational policy are largely those which can be regarded as stemming from the expected number of pupils in the various types of education; i.e., the number of teachers and classrooms and the financing required. The targets set are flexible in that changes in the expected number of pupils, resulting from, e.g., the new law on post-primary education, the lengthening of the compulsory school age, new population forecasts, etc., will lead automatically to corresponding changes in the target figures.

For the sake of convenience, the basis for the targets, i.e., the expected number of pupils, is repeated below from Table 23.

Table 30

Total enrolment by type of education
1950-1975 (x 1000)

	1950	1960	1965	1970	1975
Pre-primary education	340	400	460	520	660
Primary education Continued primary education } . . .	1,240	1,460	1,440	1,500	1,620
Special primary education	35	55	65	85	95
Secondary modern education . . .	130	265	280	280	280
Grammar school education	85	170	210	240	280
Junior technical and vocational education	110	220	235	240	245
University education	30	40	65	80	110
Other	45	100	210	230	260
Total	2,015	2,710	2,965	3,175	3,550

2. Teachers

The number of teachers required is contingent upon the expected number of pupils and the pupil-teacher ratios.

There is a widely-held conviction that in almost all types of schools the present pupil-teacher ratios (or the number of children per class) are too high. This is most evident in primary education as is recognised in the Act of 11th June, 1959, which provides for an average of 28 children per class for the future.

The reduction is planned in three stages, of which the first was carried out in 1963 and the last will be completed in about 1969. Reductions, to the levels of 19 and 23 pupils per class respectively, have been planned in continued primary education and secondary modern education.

The ratio of students to teachers in the universities has been declining steadily since 1950. That tendency may be expected to continue. If it is assumed that no further measures concerning pupil-teacher ratios are introduced until 1975, the average number of pupils in each class per type of school for 1970 and 1975 can be indicated in the following table.

Table 31

Number of pupils per teacher or per class, 1950-1975(1)

	1950	1960	1970	1975
Pre-primary education	42	34	34	34
Primary education	34	35	28(2)	28(2)
Continued primary education	20	26	19(2)	19(2)
Special primary education	16	14	14	14
Secondary modern education	26	29	23(2)	23
Grammar school education	20	22	22	22
Junior technical and vocational education		21	21	21
University education	10	7	6	5

(1) For pre-primary education to secondary modern education, per teacher; for grammar school education and junior technical and vocational education, per class.

For universities the ratios of students to teachers plus staff members have been taken.

(2) Lowered by virtue of the Act of 11th June, 1959.

On the basis of the foregoing figures and data on the number of pupils expected, the required number of teachers can be estimated as follows:

Table 32

Teaching staff

	1950	1960	1970	1975
Pre-primary education	8,100	11,800	15,000	19,000
Primary education Continued primary education	37,000	43,600	56,000	60,000
Special primary education	2,200	3,900	6,000	6,800
Secondary modern education	5,000	9,100	12,000	
Grammar school education	6,100	12,000	18,000	20,000
Junior technical and vocational education	8,300	18,600	20,000	21,000
University education	3,000	5,400	13,000	22,000

On the basis of these figures, and taking into account the numbers needed for replacement, the required inflow has been estimated for the coming years. If this demand meets with the expected supply, it is found that, in the absence of changes, surpluses will arise in nearly all types of education. This is not surprising. In the past (± 1950-1960) all types of education suffered teacher shortages as a consequence of the rapid increase in the number of pupils. In the future, the increased output of teacher training institutes (a consequence of the increased number of pupils in secondary education in past years) will be accompanied by a relatively stable number of pupils. Whether these surpluses will occur in fact is also dependent on the policy with regard to pupil-teacher ratios, which are generally felt to be too high.

For university education, where the trend in the number of students is expected to be completely different than for the other levels of education, difficulties in staffing are expected.

3. Classrooms

Given the expected number of pupils and the information presented in Table 31, the additional number of classes for which accomodation will have to be provided can be calculated. The number of classrooms which have to be replaced is not known yet. An estimate has been made as follows. Reckoning the life span of a classroom to be 60 years, it is assumed that by 1975 all the rooms built between 1900 and 1915 will have to be replaced by new ones. This figure was arrived at by calculating how many new classrooms had to be built between 1900 and 1915 to accomodate the increase in the number of pupils. The figures obtained in this way were raised for some types of schools after consultation with experts.

For university education, the number of classrooms has not been calculated, as the concept of the classrooms is rather meaningless in this type of education.

The results of the calculations are shown below in Table 33.

Table 33

Number of classrooms

	1965-1970			1970-1975		
	Expansion	Replacement	Total	Expansion	Replacement	Total
Pre-primary education	1,800	1,500	3,300	4,100	1,500	5,600
Primary education Continued primary education . .	7,200	2,300	9,500	4,300	2,200	6,500
Special primary education	1,500	300	1,800	700	400	1,100
Secondary modern education	1,400	500	1,900	.	1,000	1,000
Grammar school education	1,300	100	1,400	1,800	200	2,000
Junior technical and vocational education	300	200	500	300	300	600
University education .	.	.	.	.	.	.
Other	900	.	900	1,300	.	1,300
Total	14,400	4,900	19,300	12,500	5,600	18,100

As the number of classrooms built in past years has been even greater than the numbers to be built in the future, no difficulties are expected in reaching the target figures shown above.

4. Expenditure

Expenditure is usually divided into recurring and capital expenditure. Recurring expenditure consists of two main items: personnel expenses and material running expenses. The personnel expenses have been assessed on the basis of the required number of teachers (Table 32) and the expected salaries in the years to come.

Teachers' salaries show a marked tendency to rise and will probably continue to do so in the coming years as part of the general increase in income. There being virtually no lag in salary, it is assumed that the salaries of all groups of teachers will follow the estimated development in real wages, which will probably increase by 3.5 per cent annually. The material running costs include rents, small maintenance expenses, teaching requisites, lighting, heating, etc., and administrative expenses. This expenditure per pupils showed, after correction for price increases, a rise of roughly 5 per cent per annum during the 1950's. According to experts, this tendency is more likely to intensify than to wane in the period ending in 1975. They base their opinion on the fact that it is essential to replace or renew traditional teaching requisites and, particularly, to introduce new audio-visual aids, such as films, school radio and T.V. The gradual introduction of language laboratories in secondary schools will also increase the running costs. Allowance has been made in this calculation for a continuation of 5 per cent annual growth until 1975.

The total recurring expenditure that may thus be expected is given in the following Table 34.

Table 34

Recurring expenditure, 1960-1975

(in millions of guilders)

	1960 (1)	1965 (1)	1970 (2)	1975 (2)
Pre-primary education	80	145	200	305
Primary education Continued primary education	490	835	1,135	1,470
Special priamry education	50	100	160	215
Modern secondary education	135	250	335	395
Grammar school education	180	355	490	680
Junior technical and vocational education	205	360	440	545
University education	145	425	730	1,450
Other	140	320	425	540
Total	1,425	2,790	3,915	5,600

(1) Current prices.

(2) 1965 prices, except for a real salary increase of 3.5 per cent per annum.

Capital expenditure

Given the number of classrooms to be built, the required investment can be calculated with the aid of the following table showing investment costs per classroom.

Table 35

Investment per classroom 1965

(in thousands of guilders)

	Land	Building	Instal-lation	Total (1)
Pre-primary education	8.0	54.0	4.0	76.0
Primary education Continued education	8.0	50.0	5.0	73.0
Special primary education	14.0	74.0	13.0	115.0
Secondary modern education	9.0	55.0	5.0	79.0
Grammar school education	8.0	93.0	7.0	125.0
Junior technical and vocational education	11.0	122.0	15.0	175.0

(1) Including miscellaneous items.

The method given above is not applicable to university education. For this type of education the estimate is based on the investment costs per student and the expansion plans of the universities.

Table 36

Total investment, 1965-1975

(in millions of guilders)

	1965-1970	1970-1975
Pre-primary education	235	405
Primary education Continued education	695	470
Special primary education	205	115
Secondary modern education	145	70
Grammar school education	180	255
Junior technical and vocational education	85	100
University education	1,800	2,500
Other	115	165
Total	3,460	4,080

According to this table about 50 per cent of the total amount has to be invested in university education. This is to some extent the consequence of the rapid increase in university education and the stabilisation of the number of pupils in other types of education.

Total government expenditure on education

The following table gives a general breakdown of government expenditure on education in the years 1950 to 1975. When calculating the capital expenditure for 1970 and 1975 it was assumed that between 1965 and 1970 and between 1970 and 1975 total investments would be distributed evenly over the years.

It is evident from table 37 that trends already noticeable now will lead to a doubling of government expenditure up to 1975. Compared with the past this seems to be a slacking off in the rate of increase. But one should bear in mind that figures of the past are in current guilders and those of the future in 1965 guilders. If a continuation of price increases is assumed then the expenditures in 1970 and 1975 would amount to 6 and 9 billions of guilders respectively. In the following table expenditure on education is shown as a percentage of G.N.P.

Table 37

Total government expenditure on education 1950-1975

(in millions of guilders) (1)

	1950	1955	1960	1965	1970	1975
Personnel	350	645	1.160	2,280	3,200	4,550
Material	85	175	265	510	715	1,050
Capital	80	195	470	800	900	1,050
Indivisible	40	65	105	190	250	350
Total	555	1,080	2,000	3,780	5,065	7,000

(1) 1950-1965 current prices; 1970-1975 prices 1965, except for a real salary increase of 3.5 per cent per annum.

Table 38

Government expenditure on education, as a percentage of national income (1)

	1900	1920	1940	1960	1965	1970	1975
Running expenses	1.4	2.5	3.2	3.6	4.5	5.2	6.0
Total expenditure				4.7	5.7	6.3	7.0

(1) Gross national product at market prices.

The foregoing assessment of government expenditure on education must definitely be regarded as a minimum estimate. Measures likely to be taken, such as raising the school-leaving age, further lowering the ratio of pupils to teachers, increasing financial aid to students, the implementation of the new law on post-primary education etc. may as calculations indicate cause government expenditure on education to increase to 8 per cent/10 per cent of national income in 1975.

Chapter IX

THE ORGANISATION OF PLANNING (NON-UNIVERSITY)

1. Introduction

This chapter outlines the organisation of Dutch educational planning below university level as far as the activities of the Ministry of Education and Science are concerned. A description is given of the fields in which planning has thus far been carried out, of the procedure which has been followed in practice and of the results obtained.

As mentioned in the introductory chapter, until now it has not been possible to speak of overall planning of education in the Netherlands. Planning activities have emerged in those fields which presented the most problems. In this period of piecemeal planning, the activities that were undertaken could be grouped, in fact, under one of two headings: education below university level and university education. While the planning of higher education was effected through special committees, in the planning for the other types of education the research department of the Ministry of Education and Science played an increasing part.

2. General

In the years following World War II Dutch educational planning activities had in practice been grouped into seven fields, i.e.:

(a) Formulation of national school plans;

(b) Building plans;

(c) Supply of teachers;

(d) Teachers' salaries;

(e) Finance problems;

(f) Renewal and improvement of the educational system;

(g) Manpower problems.

In all these activities the research department of the Ministry played, as has been said already, a more or less important role. This unit was established in 1950 as a very small one. Its task was to do research for all other departments of the Ministry (including the non-educational departments, such as arts, youth activities, sports, leisure activities, adult education, etc.); it has a service function with respect to the whole Ministry. Over the years, the unit (first as a sub-department, later on as a full department) matured and expanded its activities from occasional research projects to bigger planning projects.

Apart from this a social-economic adviser was appointed in 1965 (See chapter XI).

The paragraphs below deal with each of the seven fields mentioned above.

Apart from the activities of the research department and the social-economic adviser, committees are sometimes appointed to study special problems. Generally, co-ordination with the research department is established; e.g., by appointing one of the officials of the department as a member of such a committee. The renewal and improvement of education (curriculum, pedagogical problems) are not carried out by the Ministry but by the pedagogical centres (see Chapter III).

3. Planning for schools

(a) General

The government has devoted much attention to planning for schools in recent years. Plans have been drawn up, and to a greater or lesser extent further refined, for most types of education. However there are some types of schools for which this type of planning is not possible.

At present the law prescribes "automatism" for pre-primary education and for primary education, which can be subdivided into ordinary primary education (G.L.O.), continued primary education (V.G.L.O.) and secondary modern education (U.L.O.).

The term "automatism" here means the Government's legal obligation to consider financing (i.e. providing and maintaining) a school of one of the types mentioned as soon as a group of parents of at least the minimum number specified in the Act requests it (see Appendix I). This is the case for non-governmental schools. The establishment of governmental schools is the task of the municipalities. The distribution of schools of the latter type will thus obviously be regulated from the bottom upwards, making government planning impossible.

With respect to other forms of education, the opportunity to plan really lies with the Minister of Education and Science who decides what schools are eligible for government financing (there are virtually no schools maintained without government aid).

(b) Preparation of a school plan

Thus far, the initiative in planning for schools has always been taken by the policy departments of the Ministry of Education and Science On receipt of instructions from the Minister to prepare a plan for schools, the research department draws up a paper bringing together all phases of the studies made for the plan, and their results, before submitting a draft.

A plan usually has three main features, i.e.:

(i) National and regional analyses and forecasts of the numbers of pupils;

(ii) Determination of the appropriate size of the schools;

(iii) Description of the future regional potential of pupils in relation to the appropriate size of the new schools, on the one hand, and of the existing school system, on the other.

The available statistical material and literature are studied and the inspectorate of education, which consists of experts in the type of education involved, is consulted.

When the study paper has been completed, a draft is made, in consultation with the policy department. The draft is based partly on the contents of the paper and partly on what is considered to be "politically realisable".

A draft differs from a paper in the following respects:

(i) It is much shorter;

(ii) Most of the technical aspects of the investigation are dealt with in appendices;

(iii) Professional jargon is avoided;

(iv) The line of reasoning is integrated into considerations of general policy.

The policy department submits the plan, with comments if any, to the Minister (or Secretary of State) who accepts it as a basis for his policy with regard to a certain type of school.

In Appendix IV an example is given of the structure of a school plan.

(c) Implementation of the plan

(i) Publication

The plans drawn up by the Minister are usually appended to the budget for Education and Science which he must present to Parliament annually.

The memorandum is obtainable from the Government Printing Office as a separate document. At the same time the Press Service of the Ministry issues a communiqué, thus ensuring that publicity is given to the plan in the daily papers and on the radio. Professional weekly and monthly publications dealing with education usually give frequent and detailed comment of the plan.

This is the first stage in the implementation of the plan, since the possession of full information encourages those concerned to give thought to the problems dealt with. Such reflection is considered as very important for the success of the plan.

(ii) Discussion in Parliament

Plans are not bills and cannot therefore be accepted or rejected by Parliament. Nevertheless, some of the plans submitted have been discussed in Parliament. In this way the views of the Houses are made known to the Minister and Parliament is informed of the Minister's proposed policy. After discussion, the plans have so far always been "noted"; i.e., Parliament has raised no insurmountable objections. In the event of Parliament having objections which the Minister does not wish to accept, a motion of censure may be adopted. Parliament may also reject the Ministry's budget.

(iii) Selection of applications

As soon as a plan has been approved by the Minister, applications for financial assistance in the establishment of new schools are selected in the light thereof.
The applications are frequently selected by comparing the number of pupils expected with the appropriate size of school as given in the plan. The value of a plan is thus clearly demonstrated, as a number of the many applications received are unrealisable and concrete reasons can be given for their rejection. When there was no plan, it was seldom possible to judge which applications should be granted in order to effect an efficient distribution of schools. As a result there was a tendency in some districts towards assisting new schools which were too small to provide education at the right level.

(iv) Comparison

Once a plan has received its final form and been approved a check is made to see how closely the expected developments on which the conclusions are based correspond with the facts. The expected and the actual developments are compared annually, so that certain premises can be revised if necessary or, if the discrepancies are too great, a new plan is prepared.

4. Building plans

Every year the Minister of Education and Science publishes as an appendix of the budget a memorandum concerning a rough planning of the proposed numbers of schools or classrooms which will be built in the following year. In these memoranda a breakdown is given (expressed in millions of guilders) of what the building activities for each type of school will be. This constitutes a partial plan under the annual national building programme drawn up by the Minister of Housing to regulate all building activity in the Netherlands. It has been felt, however, in the last few years, that a more detailed and more adequate programme of school building was needed. On the one hand, this was needed in order to build schools when and where necessary. On the other hand, it was necessary to know what investments in building were to be expected over the next year.

To provide an answer to this question, a big research project was started in 1963. Very comprehensive questionnaires were sent out by the research department to all schools of all types (governmental and non-governmental), and it is hoped that soon it will be possible to have enough data for calculations on the yearly replacement rate for each type of education, based on the age of the existing schools, the expansion in classrooms to be expected for each separate school, etc. This project is held to be of great importance for the planning of investments for the future.

5. Supply of teachers

The third field of planning thus far has been concerned with the effort to ensure that there will be enough teachers for the various types of schools. The training of teachers is not the task of the government alone. The various organisations which maintain private schools also provide training for teachers for their schools.

The problem of meeting the need for teachers has received continuous attention in the Netherlands during the last 10 - 12 years. This is not surprising, considering the enormous expansion of education since World War II. This has aggravated the problem of obtaining sufficient qualified teachers. A training school plan for pre-primary education has just been completed, which is based on the estimated needs of teachers up to 1970.

Both rough long-term plans and more detailed short-term ones have been formulated for primary education. The former include a plan for teachers training colleges along the lines of the plan for pre-primary training schools. The short-term planning is different. Since 1953 the annual memoranda have contained a detailed analysis of the number of teachers leaving and entering the profession for each year. It has thus been possible to make an annual forecast of the situation for the following year with some degree of accuracy and to adapt plans accordingly.

As there have been no serious shortages in primary schools in the last two years, short-term planning now concentrates on details. An estimate was made of the number of teachers needed and the number available in technical schools, where a shortage was also beginning to be felt. The figures were such that the Minister set up a committee to study the future need of teachers for schools of this type and of the various special qualifications required and to make recommendations for supplying that need. The report of this committee is now being studied in the Ministry.

The same type of estimate was made of teachers' needs in domestic science schools for girls. As no serious shortages are expected, there has been no further planning for training teachers for these schools.

It is in the secondary schools (preparing for higer education) that the shortage of teachers is most serious (25 per cent of the lessons in such schools are given by unqualified teachers). However, training colleges for secondary school teachers have not been planned, owing to the fact that these teachers can be divided into two categories:

(a) Graduates of universities and university colleges;

(b) Persons holding some qualification to teach in secondary schools. Such qualifications have been acquired by following part-time courses at a university or other educational establishment.

As long as the future organisation for this type of training has not been regulated, planning has been omitted.

6. Teachers' salaries

In order to achieve a better system of salaries for teachers, several comparative studies in this field have been carried out.

With a view to improving the system and to linking teachers' salaries with the remuneration accorded to those performing comparable functions in the civil service, extensive studies were made of primary school teachers' salaries in comparison with those of officials possessing certificates from technical colleges, the two groups being considered to have attained the same educational level. Similar studies have been carried out for teachers of secondary schools (pre-academic type) in comparison with academic graduates in the civil service. The results of these studies have been very useful to the Ministry, e.g. in negotiations with the teachers'unions. The studies have also promoted co-ordination in the salary system.

7. Finance problems

The principle of financial equality mentioned in Chapter I and II has led to a complicated system for subsidising public and private schools. It is reasonable, therefore, that questions should arise about the most efficient system of financing.

In this connection a project was carried out by the research department in 1953 for expressing in a single formula the whole system of subsidies to secondary schools (pre-academic). Apart from the actual teachers' salaries, which the schools receive directly from the State, all the running expenditures of the schools are included in this formula, which is divided into:

(a) Costs per school;

(b) Costs per class;

(c) Costs per pupil.

Another project is now under way. It is aimed at modifying the system for subsidising the municipal pre-academic schools, for which a number of problems have arisen.

For satisfactory implementation and functioning of the new Post-Primary Education Act it is necessary to study the financial consequences of the coming into force of the law. Studies in this field are now in progress.

8. The renewal and improvement of education

(a) General

An important aspect of educational planning is concerned with renewal and improvement of education and involves the problems of teaching methods, curriculum etc.

These activities can be divided into two main phases:

(i) Pedagogical research;

(ii) Introduction of the results of this research.

As a consequence of the principle of freedom (resulting in the fact that the majority of Dutch schools are run by private institutions), both pedagogical research and the introduction of its results are not considered to be primarily the responsibility of the Government, but rather of these private institutions. As a matter of fact, however, the Government does not stand aside with regard to these activities. The most important role in this field is played by the pedagogical centres mentioned in Chapter III and by the universities (see also Diagram I).

The pedagogical centres founded by the national associations of governing bodies of non-governmental schools and the national teachers associations (for governmental education, also by the municipalities and the State together with non-denominational private organisations), came into being after World War II.

Roughly speaking their activities can be divided into four aspects:

(i) Studying existing pedagogical problems;

(ii) Experimenting with new methods;

(iii) Introducing the results of their experiments into the schools;

(iv) Generally introducing the idea of renewal among the teachers, for example, "classical" teaching methods versus the individual approach to students.

Sometimes the centres also carry out smaller research projects. There is a co-ordination committee composed of the directors of the several centres. The most important experiments are jointly organised in such a way that each centre conducts experiments in schools of its own denomination.

The pedagogical centres can be divided into three groups:

(i) Centres for all types of education, excluding technical education for boys and agricultural education;

(ii) Centres for technical education for boys;

(iii) Centres for agricultural education.

All centres are subsidised by the State, the first two groups by the Ministry of Education and Science the third by the Ministry of Agriculture and Fisheries.

All universities in the Netherlands have founded pedagogical institutes (mostly after World War II). In these institutes students are trained to become research workers, and research projects are carried out. Sometimes these projects are conducted on the initiative of the institutes themselves, sometimes at the request (and with the financial aid) of the pedagogical centres. In addition to the pedagogical institutes, there are the psychological, social-psychological and sociological institutes of universities, which sometimes carry out research projects in the educational field. There is no formal link between the university institutes and the pedagogical centres mentioned above, although in some cases university professors are members of the boards of the centres.

(b) Research

In recent years complaints have been heard, both in educational circles and in Parliament, about the insufficiency of educational research and the lack of co-ordination in this field. To improve the situation in both of these respects, the Minister of Education and Science in 1963 appointed a study group (professors of education and higher civil servants), which suggested creation of a body responsible for the promotion and co-ordination of educational research.

According to this advise the Minister for Education and Science installed in December 1965 the Foundation for Educational Research. To this foundation the planning, co-ordination and stimulation of research is delegated. The foundation has funds available to promote research projects. It does not carry out such projects itself. As members of the governing board are appointed (by the Minister) experts from the circles of the pedagogical centres and the national educational organisations of the different denominations, and professors of pedagogy, psychology and sociology. The head of the Research and Planning Department of the Ministry represent the Minister in the board.

It may be noted, moreover, that in 1963 a "Register of current social science research" was begun which also aims at greater co-ordination in the field of research. It gives information on projects being carried out so as to avoid duplication of effort. As has been already mentioned, research is carried out mostly by the university institutes and institutes related in some way to universities. Smaller projects are often carried out under the auspices of the pedagogical centres.

In view of the Dutch system of education, it is useful to distinguish between research into the substance of the educational system (the programme, teaching methods) and research into the administrative side of education (providing teachers, planning schools, etc.). The first aspect is dealt with in this section and is the specific task of the institutions mentioned here. The second type of research is dealt with elsewhere in this Chapter.

The Ministry is more directly concerned with the second than with the first of these two types of research.

(c) Application of results of study and research

The process of implementing improvements in education and of effecting educational renewal has two aspects:

(i) Introduction of new views on education and new methods amongst teachers who are still training for their jobs (teachers training colleges, universities).

(ii) Introduction of new views and new methods amongst teachers already in the schools.

For category (i) the training colleges are responsible for keeping their instruction up to date. For category (ii) the situation is different. Under this heading, the following activities are undertaken.

- A better understanding of the need of improving education and the possibilities of renewing the school system is promoted amongst school teachers through courses and conferences organised by the pedagogical centres for all types of schools in the different parts of the country. In this case, it is not a specific method that is introduced, but rather a change in attitudes:

- Introduction of the results of experiments and research projects. This too is organised by the pedagogical centres;
- In-service-training to refresh teachers' knowledge in their own fields of study. In view of the rapid progress of science, this activity is of the utmost importance. These activities are mostly organised by teachers' associations in special courses at universities. The associations receive State subsidies for these activities. Most of the courses are for teachers at the secondary school level.

Several methods are employed for introducing the results of research and experimentation. The most important are:

(i) The publication of research reports (sometimes only in summary form);

(ii) Comments on the results in educational periodicals;

(iii) Study groups appointed by pedagogical centres and teachers' organisations;

(iv) Courses organised by these centres and organisations, to familiarise the teachers with the new methods;

(v) Regularly held regional contactmeetings of teachers of certain types of schools;

(vi) Letters to teachers on a certain subject. In this case the pedagogical centre appoints an expert who regularly provides his colleagues with information on new methods in their particular subject;

(vii) "Introduction bureaux". One of the centres has established a special bureau for the introduction of the results of the U.L.O. experiment in order to arrive at a co-ordinated programme of introduction;

(viii) "Contact schools". These are schools operated in close collaboration with the centres and are therefore open to a rapid application of new methods;

(ix) "Learning schools". These are schools (especially technical schools) in which results of research are deliberately applied and which consequently function as model schools for other schools in the same region;

(x) Special introduction plans (this method is still in preparation). In this case the idea is to make use of specially trained experts to induce the school to use new methods;

(xi) Information specially adressed to parents by newspapers, radio, television, etc.

Sometimes, when there is great interest in a new method, new textbooks based on the method are brought on the market by a publisher of school books (e.g., the geometry project).

It has been shown that much is already being done to introduce new methods based on research and experiment. There are, however, problems which are still unsolved.

The first of these problems is the quantitative effect of the introduction of new methods; in other words, how many teachers and how many schools have already accepted the methods introduced by the pedagogical centres? Secondly, the qualitative effect; i.e. have the new methods led to improved results? Thus far, both problems still remain to be investigated. It is of the utmost importance that the introduction of new methods and the measurement of its effect should result in optimal educational output from which both the individual pupil and society as a whole will benefit.

9. Manpower problem

The maintenance of a balance between the supply of and demand for trained people at the various levels required by society is another aspect of planning. It is different from those mentioned previously. It is not a matter to be dealt with by the Ministry of Education and Science alone but requires the co-operation of various Ministries and research institutes, especially the Ministry of Economic Affairs, the Ministry of Social Affairs (State Labour Office) and the Central Planning Bureau.

Moreover, it may be seen to be one of the most difficult tasks to which planning addresses itself and can be carried out successfully only if a qualified and detailed estimate is made available of the sizes of the various occupational groups in society requiring training at certain levels. Only on the basis of such an estimate, which in itself must be based on targets set by economic and social planners, can a reasonably accurate calculation be made of the quantitative and qualitative teaching needs. Thus far, estimates have been made only on some detailed points. The provision of teachers can also be included under this heading as it is a question of supply and demand. Estimates of the required numbers and types of university graduates have been developed along the lines detailed in Chapter VII. A special committee has been appointed to study the supply of and demand for graduates of technical colleges on the basis of the results obtained by a working group composed of officials of the research department, the Ministry of Economic Affairs and the Central Planning Bureau. In addition, the Central Planning Bureau has drawn up estimates of the need for social workers, nursing staff, agricultural workers and farmers. As regards other vocational groups, the question of supply and demand has not yet been studied systematically. More specific information about the problems of manpower is given in Chapter VII.

10. Some results of planning and problems that arise

In this section information is given on the results of educational planning in certain fields, accompanied by a discussion of problems arising in connection therewith. As, generally speaking, results thus far have been limited to planning for schools and provision of teachers, only those sectors are taken into consideration.

(a) School plans

Generally speaking, the results which have been obtained in planning for schools up to the present time may be considered very satisfactory. Where a plan has been drawn up for schools of a certain type, every proposed increase in the number of schools is carefully checked with that plan. This has enabled the authorities to give irrefutable arguments for rejecting many applications for grants to found new schools, which represents a considerable advantage now that there are as many schools as are needed in many categories of education. Nevertheless, a number of problems remain, of which the most important are described below.

Research

(i) The need for fundamental research in many fields, such as the ideal size for schools and classes;

(ii) The lack of adequate data (for instance, sufficiently long series of data, etc.) on some aspects. Conclusions have therefore to be based on premises more often than is desirable.

Execution of the plan

(i) The impossibility of indicating in the plan exactly where (in what town) schools will have to be provided. As the Minister has to wait to see what subsidy applications he receives (from which places and which groups) and to choose from among them on the basis of the plan, no plan can be worked out in full detail. Sometimes a municipality that is regarded as the most suitable location for a school does not submit any applications, whereas a neighbouring municipality that is considered rather less suitable from the point of view of distribution, does submit a request.

(ii) Unsatisfactory teaching conditions in certain schools cannot be combatted as long as those schools comply with the statutory regulations. The most that can happen - and it occasionally does - is that publication of a plan stimulates certain schools (such as those with a declining number of pupils) to work together towards improving the situation.

(iii) The principle of freedom of education, which allows schools governed by various groups (governmental and non-governmental) often tends to hamper efficient planning. In a thinly-populated region, where various denominations are more or less equally represented, the number of pupils is sometimes just sufficient to justify the establishment of one school. Yet in view of the relation between the groups preferring governmental and non-governmental education in the region it may be necessary:

- to provide two schools;
- to encourage two denominational groups to provide a "compromise school".

(b) Provision of teaching staff

Planning activities in this respect have been of great benefit, particularly to primary education. The annual detailed analyses have made it possible to take special measures to provide against future shortages. As, however, all planning was begun late and since there were no satisfactory short-term solutions for certain problems, it has not been possible to eliminate shortages altogether. Thanks to the long-term planning activities for primary education (teachers' training college plan), the danger of a surplus of qualified teachers towards the end of the sixties has been recognised well in advance, and a working group has been established which is divising measures to prevent such a situation from arising.

A general problem is that it is far more difficult to control the future situation when planning for the provision of teaching staff than when planning for schools. Possible amendment of statutory regulations may result in great changes, for instance:

(i) If a lower maximum number of pupils per class is decided upon, there will be a sudden need for more teachers;

(ii) If the school-leaving age is raised the same need will arise;

(iii) If the syllabus for a certain type of school is modified, there will be a sudden shortage of teachers with certain qualifications and a surplus of teachers with others;

(iv) If the number of lessons a teacher has to give per week is altered, the number of teachers needed is correspondingly changed;

(v) The creation of new qualifications also alters the situation.

Chapter X

ORGANISATION AND PLANNING OF HIGHER EDUCATION

1. The present university system

University-level education in the Netherlands, while closely interrelated with the other sections of the educational system, retains its unique characteristics and requires separate treatment as to organisation, planning and development.

The Netherlands' university system is now comprised of twelve institutions,six of which are complete universities.(1) Half of them are located in the Western urbanised areas, and some trace their establishment deep in the history of the country and share the traditions of these old Dutch centres of commerce, administration, culture and government. Nevertheless, these venerable institutions have absorbed most of the unprecedented increase in enrolment which almost doubled in nine years (1956-1965) rising from 29,600 to 58,400. Two of these university institutions,the technological universities of Eindhoven and Enschede, have been established since the war. The relative size of these twelve institutions is indicated in the following table of enrolment figures for 1964/65 (the technological university at Enschede enrolled its first students in 1964).

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(1) By definition a complete university comprises at least three faculties, one of which must be medicine or mathematics and science.

Table 39

University enrolment 1964/65

Complete universities	
Leiden	7,263
Utrecht	9,319
Groningen	5,235
Amsterdam G.U. (Municipal University)	10,276
Amsterdam V.U. (Free (Calvinistic) University)	4,478
Nijmegen K.U. (Catholic University)	4,900
Other universities	
Delft (Technological University)	8,553
Eindhoven (Technological University)	2,020
Enschede (Technological University)	243
Wageningen (Agriculture)	1,792
Rotterdam (Economics, Law, Sociology)	2,762
Tilburg (Economics, Law, Sociology)	1,520
Total	58,361

This table indicates that the greater part of the student body is enrolled in the three State universities - Leiden, Utrecht and Groningen - and in the Municipal University of Amsterdam. The technological university at Delft has about four-fifths of the technological students.

In accordance with the Dutch educational system, the major religious groups have founded universities: the Free (Calvinistic) University in Amsterdam, the Catholic University in Nijmegen and the (Roman) Catholic Economics University at Tilburg (with faculties of economics, law and social sciences). There is also a non-denominational private university, the Nederlandsche Economische Hoogeschool in Rotterdam, and it too has faculties of economics, law and social sciences. The State Agricultural University at Wageningen completes the list.

2. The legal framework for the development of universities in the Netherlands: The Higher Education Act of 1961

A. University law as an implementation of the fundamental goals of Dutch society

Reference may be made to the fundamental goals of Dutch society, which are summarised in Chapter II. The Higher Education Act of 1961 gave these goals legal expression and designated the university as an instrument for their attainment. The Act set forth a policy under which the universities would be enabled to fulfil their duty towards society in a manner appropriate to modern times. That is to say the Act endeavoured to adapt the legal provisions so that the universities could meet the general needs of society and at the same time pursue the advancement of science and dispense the higher education which are essential to the future of our civilisation. The Act states, too, that in addition to giving the students instruction in the various disciplines, the universities must also foster a sense of social responsibility.

Such legal recognition of the inculcation of a sense of social responsibility as one of the aims of the university illustrates the deep-rooted Netherlands tradition of orienting education socially while fully maintaining the freedom of outlook on life and the personal responsibility of the individual.

The goal of religious freedom and of the freedom of private groups in Dutch society is also reflected in the Act, which recognises that public and private universities must have the same opportunities to provide higher education and conduct research in the Netherlands. It stipulates that the Government guarantees equality of opportunity for the development of public and private universities. On the one hand, university education is to be provided to all individuals desiring it and, on the other, the university may - in response to such demand - offer the training necessary for the performance of the functions required by a modern society.

The traditional position of the university as an institution engaged in the independent pursuit of knowledge and, at the same time, in the preparation of people for positions in society, gives rise to a special set of goals. The most important of these are:

(a) Scientific research and teaching should go hand in hand, as the imparting of knowledge in a university must be based on research.

(b) The quest for truth, underlying scientific research and university studies, is to be valued for its own sake.

(c) In order to avoid the danger inherent in specialisation, students should be encouraged not to lose sight of the affinity between the various disciplines.

(d) The university can accomplish its task only in an atmosphere of freedom, both in its relationship to the State and within the institution itself. It goes without saying that scientific workers should not be fettered and should be free to choose their research subject. On the other hand, it is not desirable that a university professor should go his own way with regard to teaching and examining his students without considering what his collegues are doing. The Higher Education Act, therefore, has accepted the principle of the collective responsibility of the faculty, with all the consequences that involves. This does not imply, of course, that a professor should be relieved of his individual responsibility and certainly does not mean that academic freedom should be impaired.

The student also enjoys a great deal of freedom. Much is left to his own choice and initiative. However, the opinion is gradually gaining ground that complete freedom requires a greater sense of responsibility than most students can be expected to possess; the freedom to study what and when a student wishes, it appears, is interpreted much too often as the freedom not to study at all.

B. Limits to and conditions for the development of higher education in the Netherlands

The Higher Education Act delineates the following four aspects relevant to the further development and planning of higher education.

Autonomy in Administration;

Authority of the Senate and the faculties with regard to teaching and research;

Inter-university co-ordination;

A procedure for planning university development.

(a) Autonomy in administration. The Act grants a certain amount of autonomy to the State universities by giving them the status of corporate bodies. It contains a number of provisions for both public and private universities, in so far as the latter are concerned with aspects of university education which are being financed from public funds. These provisions relate to the organisation of the universities, to degrees, examinations, admission and qualifications of students, and to the development plans and financial schemes which are to be drawn up by all universities. There are some provisions which relate exclusively to the public universities and others applying only to the private universities.

Every public university has a Board of Governors (Curators) and a Senate which, assisted by the faculties, is responsible for the administration of the university. The Board of Governors is responsible for the observance of the Higher Education Act and deals with all matters concerning housing, accommodation and financial adminstration, including the establishment of the budget. With the exception of Professors and Readers - who are appointed by the Crown - the Governors appoint the entire staff. However, the Minister of Education and Science - responsible for university education as a whole and for the expenditure of Government funds - has retained certain powers, in the form of control in matters of finance (approval of the budget) and personnel and construction policy.The private universities are entirely autonomous as regards their form of government, which in practice differs very little from that of the public universities with the proviso that in addition to the Governors, the society sponsoring the university also has certain powers. The private university is entirely free to appoint its own staff, provided that the salaries paid are not higher than those for comparable posts in the public universities.

(b) Authority of the Senate and the faculties with regard to teaching and research. The general interests of education and research are safeguarded by the university Senates. Actually the greater part of the Senates' task is carried out by the faculties. Under the Act, the faculties are obliged to see to it that teaching is properly organised and conducted. This implies also the responsibility of stating the optimum duration of the programme leading to examinations. In some faculties the question of reducing the duration of the course consitutes an important problem.

In addition to these duties directly related to teaching and research, the faculties assist the Board of Governors in practically all matters concerned with administration.

(c) Inter-university co-ordination. The Act established an Academic Council to function as a link among the universities and between the universities and society. A portion of the members are designated by the universities (two for each university, one a Governor and the other a member of the Senate), and the remainder are appointed by the Crown (maximum of 10). The Council's principal function is to encourage cooperation among the universities in the adaptation of university education to scientific developments and to the requirements of society. In the pursuit of this aim, the Council established a number of committees and sections, the latter corresponding to the various disciplines. The Council - as an overall advisory body to the Minister of Education and Science - also is mandated to advise on the university development plans, a function which will be discussed in greater detail in the next section.

(d) A procedure for planning university development. An entirely new provision of the Act states that all universities, whether public or private must draw up a development plan every four years outlining their academic policy and planning, both short-term and, whenever possible, long-term. These development plans, together with a rough estimate of the costs entailed, form the basis of the "financial plan" that each university has to submit to the Minister annually. The universities' development plans are also submitted to the examination of the Academic Council, which advises the Minister of Education and Science particularly as to whether the future policy of each university fits into the general policy for university education and research. The Council is expected to indicate any demands it believes to be excessive and any gaps that need to be filled.

The financial plan is an estimate of expenditure for the four years following the budget year. For obvious reasons, these estimates, based on the development plan, are more exact for the first and second years than for the third and fourth years. However, since a financial plan must be submitted every year, the estimates "roll up" a year at a time, making it possible to adjust the figures, the estimates for a new fourth year being added annually.

In order to meet all the needs of the universities on a continuing basis, the Act stipulates that the Minister of Education and Science and the Minister of Finance, upon receipt of the four-year financial plans drawn up by the universities themselves, shall prepare a general financial plan for the universities and submit it to the States-General together with the development and financial plans received from the universities. The general financial plan aims at the allocation of the resources to be made available to higher education in the years immediately following within the framework of general financial-economic policy, and to be divided among various university institutions. In allocating these resources, the Ministers are legally bound to provide for the opportunity of equal development of both the public universities and the private universities subsidised by the Government. The advantages of such a procedure will be evident. First, the universities are compelled to consider their long-term policies. Secondly, the acceptance of the general financial plan, even though not legally binding with respect to the Government's ultimate budget, provides the universities with a considerable measure of security as to the eventual fulfilment of their plans.

3. The main features of post-war development of the universities

A. Introduction

Until World War II, the universities developed gradually and were able to adapt themselves smoothly to the steady increase of knowledge and the growing number of students. The total number of students increased from less than 4,000 in 1900 to about 12,500 in 1938. Since the war, however, the situation has changed completely. Contributory factors are the far greater numbers of students, following the increase in the number of holders of school-leaving certificates, the greater interest in university education, the accelerated pace at which knowledge is advancing, the greater number of university courses available and the introduction of shorter courses.

The number of students shows a sharp increase; in 1955 there were 29,500; in 1960/61, 40,000; in 1964/65, 58,000. According to the latest estimates, there will be more than 80,000 students by 1970. The advance of knowledge and the growing number of students mean a greater need for academic staff, more accommodations and more equipment. In the first post-war years the Government's industrialisation policy clearly necessitated an expansion of academic education, above all in the field of technology. The technological university at Delft was greatly extended and renovated, while the most important measure was perhaps the foundation of a second technological university at Eindhoven in 1956. Meanwhile, there was a growing awareness that problems connected with the necessary expansion of academic education needed to be tackled more systematically. Publications by the Central Planning Bureau and the Central Bureau of Statistics which appeared in 1954-1956 stressed this point. It was anticipated that in the period 1955-1970 the number of students would double, partly on account of the growth of the population, the probable effect of the post-1945 "bulge" and the expansion of secondary education. A long-term policy had to be divised to deal with the flood of students and to prevent university training from running into very serious difficulties.

B. Activities with regard to a long-term expansion and development policy

(a) Methods and procedures

In the period since 1956 a number of committees and co-ordinating groups have greatly contributed to planning the expansion and further development of higher education. The most important of these bodies are the following:

(i) The Committee for the Expansion of University Education, appointed by the Minister of Education, Arts and Science in 1957;

(ii) The Committee for the Expansion of Higher Technological Education, appointed by the same Minister in 1958;

(iii) Inter-university working groups;

(iv) A statistical commission, set up by the "Interuniversitair Contactorgaan".(1)

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(1) The "Interuniversitair Contactorgaan" was a body within which the universities could exchange there views. It lost its raison d'être on the creation of the Academic Council.

There has been close co-operation between these bodies. The expansion committees submitted a joint report in the second half of 1959 which received wide attention both in the Netherlands and abroad. Important quantitative and qualitative data furnished by the Statistical Commission and by the interuniversity working groups were collated and presented in this report. For important subjects - e.g. the question of the optimum capacity of a technological university, the regional aspects of expansion, the eventual desirability of a combination of propaedeutic courses in science and technology - the ground was prepared by preliminary reports of sub-committees set up by the expansion committees for each of the relevant problem areas.

The Minister of Education, Arts and Science submitted his views on the various recommendations to Parliament in 1961 in a "Memorandum on the expansion of academic education".

(b) The report of the expansion committees

In their joint report the expansion committees dealt with the quantitative, qualitative and regional aspects of the expansion of higher education.

The quantitative aspects are the expected increase in the number of students up to 1975 and the evolution of the demand for university graduates up to 1980. Supply and demand per branch of study are confronted in the report. These quantitative aspects are important with respect to building needs, personnel requirements, etc. In the discussions on the quantitative aspects, the guiding principle was that any person who desires university training and holds certificates entitling him to sit for university examinations should have the opportunity to do so. The methods used and the results obtained in these computations, which were made by the statistical commission and utilised by the expansion committees(1), are discussed in Chapters V and VII.

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(1) The expansion committees put stress on the fact that in view of the relative value of long-term estimates as made by the Statistical Commission, it is intended to revise periodically those estimates for each branch of study and check them against actual developments. The methods used for the estimates are also periodically reviewed. The Commission for Statistical Investigation, which continues the work of the above-mentioned Statistical Commission, is preparing a new report with regard to the estimated growth in the number of university graduates. This report is expected to be ready in the course of 1966.

As described in the report, the qualitative aspects of educational expansion in the sciences and technology, the social sciences, medicine and the arts, are as follows:

(i) The training capacity of the existing universities (scope and limits);

(ii) The influence of changes in the structure of education on training capacity (shortening of the duration of studies, the adoption of teaching methods designed to improve student performance, introduction of new, short study programmes);

(iii) The combination in one university of pure sciences and applied sciences;

(iv) The housing of students, as a contribution to their personal and cultural development.

The discussion of regional aspects in the report provided an insight into the needs of scientific education in relation to regional physical planning; the document also revised possibilities for the siting of eventual new institutions of higher education. One of the sub-committees of the Expansion Committee was particularly assigned to make a special study of the regional aspects which should be taken into account in establishing new universities. This sub-committee came to the following conclusions:

> The establishement of an institution of higher education in a more remote area of the country would strongly stimulate the cultural and economic developement of such an area. Moreover, it would probably attract new categories of students, thus helping to meet the increasing national demand for university graduates.

(c) The Minister's Memorandum of 1961 regarding the expansion of higher education

After having heard the universities' comments on the expansion report, the Minister of Education, Arts and Science submitted in 1961 his views on the various recommendations to Parliament in a "Memorandum on the expansion of higher education" (Note inzake de uitbreiding van het wetenschappelijk onderwijs). In the Memorandum the Government weighed the various recommendations and comments and agreed with the expansion committees that priority should be given to the improvement and expansion of the training capacities of existing universities. This would be achieved partly by new faculties or branches of study and partly by increasing staff and providing more equipment and expanded accommodation.

However, the Government realised that is was desirable to affect a certain decentralisation of higher education by setting up new institutions.

Decentralisation was regarded as a means of encouraging students to take a greater interest in the diciplines that are vital to the country's future development and also as a means of moderating the growth of the technological university at Delft.

Chapter I of the Memorandum contains a review of the task and the place of university education at the present time and Chapter II discusses the various aspects of the problem of the expansion of higher education. The two final chapters deal with the expansion of existing university institutions and with proposals for the establishment of new technological universities.

Several of the proposals have already been implemented. Provision has been made for the addition of faculties of law and sociology to the existing economics universities at Rotterdam and Tilburg as from September 1963, which is in line with the principle of bringing about a relationship of interdependence between these fields. The University of Groningen expanded its faculty of mathematics and natural sciences to include applied mathematics, physics and chemistry. Facilities for the teaching of dentistry have been expanded in Groningen, while in 1961 a (third) dentistry department was opened in the Roman Catholic University at Nijmegen, and in September 1964 a fourth was established in the Municipal University at Amsterdam. The establishment of a department of dentistry is based on a maximum intake of about 90 first-year students, corresponding to a maximum capacity of 70 students in a year of clinical studies. On the basis of the Memorandum's proposal, a new technological university, comprising sections for mechanical, electrical and chemical engineering, has been established at Enschede. This new technological university which opened in September 1964, is situated in an area heretofore unserved by institutions for higher education and has a character of its own:

(i) It is the only "campus" university in the Netherlands; all freshmen are obliged to be resident in student-houses on the campus;

(ii) An experiment is being made with a degree programme that differs from any in effect in the other technological universities: in addition to the full programme leading to the engineering degree, a three-and-a-half-year course has been established leading to a bachelor's degree in technology;

(iii) In addition to technical subjects, special attention is given to such disciplines as sociology, economics and law.

Other proposals for further university expansion are still under consideration:

- The provision of facilities at Eindhoven Technological University for the study of pure mathematics, physics and chemistry, in addition to mechanical engineering, applied physics and chemical engineering: such facilities would be restricted however, to instruction to the level of the "candidate" examination;
- The experimental introduction of a bachelor's degree in technology at Eindhoven;
- The establishment of a curriculum including mechanical engineering and mathematics, applied and pure physics, and chemical engineering and chemistry. Such instruction would be restricted to one academic year and should constitute the basis of the "candidate" examinations (or the examination for the bachelor's degree) in either technology or science (to help students make a more suitable choice in line with their capacities and interests);
- The establishment of a fourth technological university in the vicinity of Amsterdam (about 1970).

(d) The University Development Plans for 1963-1966

As has been described in this chapter - section 2,B, (d) - there is a legal planning procedure for university development. The university development plans for 1963-1966 have been submitted to the Minister and to the Academic Council. The Minister has submitted these plans, together with the Council's recommendations to Parliament. Taking into account these recommendations, the Minister has added to the development plans his own Memorandum, thus enabling Parliament to discuss thoroughly the major issues of university education. Under present procedure, such a discussion could take place every four years.

The development plans and the related financial plans are based mainly on the estimated number of students in the coming years. As the plans have to be co-ordinated under one national plan, it is important that each university should make its estimates of the numbers of students in the same manner and on the basis of assumptions decided upon by experts in joint consultation. This leads to close collaboration between the universities and the statistical research commission of the Academic Council.

The requirements with regard to buildings and equipment are determined in part by curriculum developments and the demands of scientific research. Care is being taken to make sure that wherever possible the plans of the various universities are drawn up in the same way.

(e) The Memorandum of 1965 in pursuance of the university development plans for 1963-1966

In this Memorandum, annexed to the current university development plans, the Minister has in particular called the attention of Parliament to three important problems:

1. The sharp rise in the number of students anticipated in the immediate future. The current calculations of the Statistical Commission of the Academic Council indicate there will be more than 80,000 students by 1970 - which presents immediate problems regarding equipment, personnel and financing.
2. The increasing length of university study programmes and the need to shorten them.
3. National scientific research policy problems as related to university development.

It is evident that financial means are not available to meet all the desiderata of the universities as set forth in their development and financial plans. Cuts will therefore have to be made in accordance with the Higher Education Act.

The current review of the university development plans and their submission to the Parliament under the new planning procedure is still in an experimental stage in which the Minister is studying further lines of action to promote co-ordination of future development plans, while assuring the necessary freedom for each university to put the stamp of its own individuality on the plans. However, the three topics mentioned form a major part of the substantive issues involved in planning the development of the Netherlands university system in the immediate future.

(f) The general financial plan for university institutions for the period 1966-1969

In pursuance of and in relation to the Memorandum to Parliament on the development and financial plans of the various universities, a general financial plan drawn up jointly by the Minister of Education and Science and the Minister of Finance was submitted to Parliament for the first time in July 1965, covering the period 1966-1969. A review of this general plan is given in Table 47.

4. A view of major issues related to planning for university development

A. The current estimate of required university expansion

The guiding principle, stemming from the underlying goals and laws governing education in the Netherlands, that any person desiring university education and holding the required certificates should have the opportunity to take the university examinations, has a practical consequence: i.e. that the basic planning problem here is to estimate and meet the demand for higher education. Therefore, the details involved in attempting to make such estimates are of great interest.

In 1959, the number of first-year students expected in 1970 was estimated at 10,500 and the total number of students anticipated for that year was 64,550. The most recent calculation forecasts 11,650 first-year students and a total enrolment of 80,130 for 1970. The Minister of Education and Science gives the following three Tables (40, 41 and 42) in his Memorandum of 1965.

The evolution in the number of first-year students, leading to the 1970 estimates, can be seen in Tables 45 and 46 below.

New data with respect to student demand for university entrance are not yet available. It is expected, however, that the general demand will be greater than originally estimated because of, inter alia, the following factors:

Table 40

Total number of students and number of first-year students in 1970 by university

	Total	First-year
Leiden	8,820	1,170
Utrecht	12,800	1,790
Groningen	6,540	900
Amsterdam G.U.	12,940	1,810
Amsterdam V.U.	4,940	680
Nijmegen	8,300	1,200
Delft	11,170	1,640
Eindhoven	3,710	580
Enschede	1,480	340
Wageningen	2,040	340
Rotterdam	4,410	690
Tilburg	2,980	510
Total	80,130	11,650

Table 41

Total number of students and number of first-year students in 1970 by discipline

	Total	First-year
Languages	9,340	1,340
Theology	1,310	180
Law	7,370	1,050
Economics	8,090	1,190
Social sciences	7,300	1,090
Medicine	9,640	1,270
Dentistry	1,840	290
Veterinary medicine	900	130
Mathematics and natural sciences	12,810	1,820
Technology	16,360	2,560
Agriculture	2,040	340
Other subjects	3,130	390
Total	80,130	11,650

Table 42

Number of first-year students and total number of students by university and by discipline in 1970

	"A-sciences" (Humanities and law		Medical sciences (1)		Mathematics and natural sciences		Technology and agriculture		Total	
	1st year	Total	1st year	Total	1st year	Total	1st year	Total	1st year	Total
Leiden	590	4,540	250	1,930	330	2,350			1,170	8,820
Utrecht	780	5,550	520	3,790	490	3,460			1,790	12,800
Groningen	400	2,840	260	1,880	240	1,820			900	6,540
Amsterdam G.U. . .	1,060	7,630	340	2,410	410	2,900			1,810	12,940
Amsterdam V.U. . .	430	3,110	100	750	150	1,080			680	4,940
Nijmegen	780	5,480	220	1,620	200	1,200			1,200	8,300
Delft							1,550	11,080	1,550	11,080
Eindhoven							560	3,680	560	3,680
Enschede							450	1,600	450	1,600
Rotterdam	690	4,410							690	4,410
Tilburg	510	2,980							510	2,980
Wageningen							340	2,040	340	2,040
Total	5,240	36,540	1,690	12,380	1,820	12,810	2,900	18,400	11,650	80,130

(1) Medicine, dentistry and veterinary medicine.

(a) A more rapid increase of the population (marriage at an earlier age and less emigration);

(b) Better economic prospects, and as a consequence higher income per capita, which will no doubt lead to a greater interest in pre-university education and more demand for academic graduates in several occupations;

(c) More opportunities for university-trained persons in social-economic life.

B. Consequence for planning of the projected university expansion

(a) Resources for expansion

One of the difficulties now facing the Netherlands authorities is how to obtain the resources necessary for adapting the existing position as quickly as possible to the needs of the near future. To make the situation clear to Parliament, the Minister in his Memorandum, reviewed the position of higher education in the Netherlands during:

(i) The period between the two World Wars, giving statistical data on the number of students for 1920-1938 and on government expenditures from 1920 to 1938 for university education;

(ii) The period from the end of the second World War to 1956, the year in which intensive study of the problem of the expected growth of university education began;

(iii) The period from 1956 to 1961, during which there was a rapid growth of government expenditures for university education, as indicated in Table 43. Expressed as a percentage of national income, one can see a doubling of these expenditures.

Table 43

Government expenditure for higher education

(1956-1961)

Year	1	2	3	4
1956	129.2	4.37	29.0	31.5
1957	168.9	5.27	49.1	50.1
1958	199.6	6.16	63.1	63.1
1959	241.8	6.96	86.8	86.-
1960	286.1	7.37	104.5	101.4
1961	367.5	8.95	137.5	131.3

Expenditure: Column 1 = total government expenditure in millions of guilders;

Column 2 = total government expenditure in promille of national income (market prices);

Column 3 = investments in millions of guilders;

Column 4 = same as 3, calculated in constant prices (1958 base year).

On this basis of providing an investment of 15,000 guilders per student in the "A" faculties (1) and 60,000 to 75,000 guilders per student in the "B" faculties, (2) an initial investment scheme was formulated in 1961.

In 1962, the Government decided to invest 150 million guilders a year for the following ten years.

It now appears, however, that the resource requirements of the universities represent a much more serious problem than was foreseen.

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(1) "A" faculties: humanities, arts, social sciences.

(2) "B" faculties: mathematics, natural sciences, technology, medicine.

The new estimates, based on the new projections of student growth, indicate a need for an average of 350 million guilders a year, in investments alone.

This does not include subsidiary requirements for e.g. student housing, sports, etc., which will necessitate additional investment.

5. Standards for the development of university institutions

(a) Personnel

About 70 per cent of current expenditure is spent on academic personnel. Special attention is given to policy in this field in the Ministry as well as in the universities themselves. Moreover, an "ad hoc" committee of the Academic Council is studying the possibility of identifying and analysing the factors which determine the need for personnel, perhaps stated in the form of ratios between numbers of professors and other scientific and non-scientific personnel, on the one hand, and numbers of students on the other. The objective would be to arrive at a generally applicable method for estimating future quantitative personnel needs.

(b) New Medical Faculty

It is considered very important to estimate the demand for particular groups of graduates and to find out how the universities can meet that demand. This problem exists, e.g., in the field of medical training. Early in 1965 the Minister received a report of a working group of the Committee for Statistics of the Academic Council, entitled: "The demand for physicians and the provision of physicians 1963-1982" (Goudswaard report). This report is the result of a study at the special request of the Minister of Education in 1961, after consultation with the Minister of Social Affairs and Public Health, with a view to measures that might be taken to ensure the adequacy of facilities for medical training.

It was calculated that in 1982 there should be 1.40 physicians for every 1,000 of population to meet estimated needs satisfactorily (figure for 1962: 1.113 per 1,000). This implied a considerable increase in the demand for physicians. It is expected that in 1982 the population will have risen to 15 million. The density figure of 1.40 per 1,000 would mean, then, that there will be a demand for 21,000 physicians in 1982. To meet this demand, a considerable increase in the number of first-year medical students is necessary. Table 42 shows the evolution in the numbers of first-year medical students from 1955/56 to 1964/65. If interest in the study of medicine develops in 1965-1973 according to present estimates, there will be a total of 19,500 doctors in 1982 (= 1.30 per 1,000). This would mean a shortage of 1,500 physicians. Therefore, in the coming years, the minimum intake of medical students should not be less than 1,400 a year.

The Minister has been in close consultation with the universities with regard to the training capacities of the medical faculties. The universities were of the opinion that an average number of 200 first-year students could not be exceeded. In 1964, a special committee was set up to ensure an efficient distribution of first-year students over the six medical faculties. Taking into account the Goudswaard report and the training capacity of the medical faculties as a whole, the Government decided in May, 1965, that as soon as possible a new medical faculty should be established in Rotterdam. However, it is not certain that the total training capacity of even seven medical faculties will be sufficient. The possibility of a numerus clausus for first-year students in 1966/67 as a final resort is therefore not excluded.

(c) The new technological university

An investigation similar to that undertaken for medical education will be required in the field of technological training. The question whether a new technological university should be established near Amsterdam, which had been raised for the first time in the expansion committee's report mentioned above and then, in 1961, in the Memorandum of the Minister, has become acute. A committee has now been set up to study the various aspects of this problem.

(d) Duration of studies

One of the main problems is the question how to shorten the duration of studies in many disciplines. According to statistical data, the normal duration of study for most disciplines is a year longer than it was before World War II. The study of medicine, which takes about nine years, is apparently the longest of all.

It is supposed that this problem can be solved only by modification of the structure of present university training. This question, however, calls for a good deal of study. In the first place, the possibility of creating propaedeutic examinations having a selective character is under consideration. The aim would be to discover at an early stage whether the student is capable of pursuing the programme of studies he has chosen. In the second place, a revision of the so-called "kandidaatsexamen" is under consideration.

Under the Higher Education Act, the responsibility for the duration of studies rests, in the first instance, with the faculties. The faculties were requested, therefore, through the Academic Council, to take measures to obtain as soon as possible a reasonable reduction of the length of study programmes.

The Minister submitted to Parliament data provided by the faculties on this problem. In university circles, in the Ministry and in Parliament, much attention is given to this question. The ultimate aim is for the faculties to reduce, if possible, the normal duration of preparation for the doctoral examination to five years.

Table 44

First year medical students: 1955/56 to 1964/65 (1)

	Leiden	Groningen	Utrecht	G.U.	V.U.	Nijmegen	Total
1955 - 1956	133	84	118	126	55	109	625
1956 - 1957	122	80	115	119	38	89	603
1957 - 1958	154	103	144	151	49	122	723
1958 - 1959	154	95	175	142	64	106	736
1959 - 1960	176	118	194	148	70	123	829
1960 - 1961	154	125	177	154	54	126	790
1961 - 1962	185	126	222	152	74	117	876
1962 - 1963	197	179	237	169	81	125	979
1963 - 1964	277	190	299	224	128	161	1279
1964 - 1965	259	203	288	220	195	219	1384

(1) There are at present six medical faculties in the Netherlands.

(e) Curricula

The specific content of the curricula for the various disciplines is another important element of higher education now under consideration. General regulations concerning the examination requirements are laid down in the Academic Statute, a Royal decree which is applicable to both public and (indirectly) private universities. Under the stipulations of the Academic Statute, two examinations should be passed in every discipline:

(i) The "kandidaats" examination for which a broad general knowledge of the discipline in question is required;

(ii) The final "doctoraal" examination, which is more specialised and is concentrated on one main subject and, as a rule, two sub-subjects.

A faculty may also give a bachelor's examination. This can be taken after three and a half years of study and should also be regarded as a final examination, although at a lower level than the "doctoraal".

The regulations set forth in the Academic Statute leave a considerable amount of freedom to each faculty.

Each faculty is obliged to determine its own policy and at the same time to accept the principle of collective responsibility. The individual professor is free with regard to determining the nature of his subject matter and the manner of its presentation.

The Statute emphasizes the fact that all universities in the Netherlands have the same status. This means that a student can, for example, pass the "kandidaats" examination in one university and continue his study for the "doctoraal" examination in another university. The "doctoraal" examination taken in one university entitles the student to take a doctor's degree in the same faculty in any of the other universities.

The universities also confer some degrees qualifying for a profession (e.g. medicine, pharmacy, etc.)

The new examination programmes to be included in the Academic Statute are still under discussion; the Ministry, the Academic Council and the universities are working closely together in this respect too.

In revising the old Academic Statute, the opportunity is being taken to review the entire set-up of university studies in the light of the great changes which have taken place, and are still taking place, in society and science.

As a rule, only courses for which the examination requirements are laid down in the Statute will be financed by the Government. However, as an experiment, the universities can suggest new courses for which they desire financial support. The Academic Statute regulates the manner in which the universities may introduce new courses of study in one of their faculties before such courses can be included in the Statute itself.

(f) National scientific research policy

All universities in the Netherlands, in addition to their training task, have a function to fulfil in the field of scientific research. Their contribution - especially indispensable with regard to fundamental research - makes it necessary that they work on the frontiers of knowledge. Therefore, the characteristics of modern scientific research will, in general, have an impact on the universities. Special attention has to be paid to the needs raised by some disciplines for expensive equipment and for a rapid increase in costs and in number of scientific personnel. The continuing development of the universities requires that standards be developed which can assist in allocating resources for higher education between its two basic functions, teaching and research. Furthermore, within the various fields of research, standards for required resources also need to be determined, partly on the basis of priorities governing national research policy and partly on the basis of particular features of each field in question. Such standards, moreover, must not be static but must be projected to adapt to change in the future. This process involves difficulties, but the alternative would be to have even less of a basis for planning the resource needs for the research function of the universities during this coming period of expansion.

The broad composition given by the Academic Council to its Committee for General Problems of Scientific Research at the universities reflects the importance and the full significance of the problems with which the universities have to cope in this field.

The growing importance of science and technology, making themselves felt ever more deeply in the life of society, must be recognised through a conscious effort to give a role to the sciences in government policy. Against this background, the Government will shortly introduce in Parliament a bill to establish an Advisory Council for Science Policy.

(g) The internal efficiency of the university institutions: The problem of student drop-out

The various standards applied in promoting the development of the universities may be examined on the basis of their effect upon university efficiency in producing qualified students. The current study of the Central Bureau of Statistics on the data pertaining to student dropout may shed further light on the factors behind this phenomenon. Any serious planning effort to cope with this problem will involve an evaluation of the factors - such as shorter courses, new types of courses, student housing schemes, guidance programmes and the location of new university facilities near student residences - as they affect student performance and retention.

C. University development as related to national social and economic goals

(a) The supply of and demand for university graduates

Chapter VII of this report deals with the calculations that have been made indicating the relationship between the economic demands for high-level manpower and the prospective supply of university graduates in the Netherlands. In general, these calculations indicate that the total supply of university graduates will, in the period 1970 - 1980, not fall too far below demand. However, some considerable imbalances, and therefore shortages, can be expected in individual branches of study if past trends remain unchanged in the future. Shortages may occur, for example, in technology, chemistry, physics, pure mathematics, dentistry, law and economics, and surpluses may build up in various branches of the humanities. Of course, in some of these areas the shortages and surpluses are dependent upon standards for the utilisation of these skilled and high-level manpower groups in the economy and in the various institutions of society.

(b) Guidance of the students with respect to their choice of studies, therefore, becomes a particularly crucial subject for further work in the development of university programmes. It should be noted that a system of guidance would also be related to encouraging success among university students in their careers. Furthermore, a developed system of guidance would be the point at which the university system could reconcile the freedom of students to choose their own programme of studies with the needs of, and opportunities for, trained high-level manpower.

Table 45

The evolution in the number of first year students from 1920/1921 to 1970/1971

	1920/21	1937/38	1947/48	1955/56	1963/64	1970/71(1)
Leiden	349	538	755	593	1,138	1,170
Utrecht	459	532	813	761	1,695	1,790
Groningen	155	144	239	323	857	1,280
Amsterdam G.U.	320	425	1,148	824	1,547	2,030
Amsterdam V.U.	44	69	154	359	717	680
Nijmegen	-	114	158	396	894	1,200
Delft	439	422	1,081	940	1,393	1,550
Eindhoven	-	-	-	-	474	560
Enschede	-	-	-	-	-	450
Wageningen	65	98	154	149	263	340
Rotterdam	288	192	260	253	488	690
Tilburg	-	57	133	109	355	510
Total	2,119	2,591	4,895	4,707	9,821	12,250

(1) Includes students following university courses not leading to degrees.

Table 46

The evolution in the total number of students from 1920/21 to 1970/71

	1920/21	1937/38	1947/48	1955/56	1963/64	1970/71 (1)
Leiden	1,344	2,384	3,553	4,294	6,683	8,820
Utrecht	1,755	2,670	4,810	5,111	8,781	12,800
Groningen	677	921	1,674	2,254	5,383	7,740
Amsterdam G.U.	1,298	2,438	5,598	6,383	9,806	13,610
Amsterdam V.U.	225	611	1,018	2,068	3,980	4,940
Nijmegen	-	446	740	1,753	4,310	8,300
Delft	2,393	1,838	5,486	5,062	7,965	11,080
Eindhoven	-	-	-	-	1,816	3,680
Enschede	-	-	-	-	-	1,600
Wageningen	289	409	1,121	792	1,490	2,040
Rotterdam	571	566	1,225	1,296	2,397	4,410
Tilburg	-	222	721	629	1,350	2,980
Total	8,552	12,505	25,955	29,642	53,961	82,000

(1) Includes students following university courses not leading to degrees.

Table 47 General financial schedule for the universities and university institutions, 1966-1969

x F. 1,000

	Budget		General financial schedule			
	1964	1965	1966	1967	1968	1969
Outlays, current account						
Wages and salaries	228,917	302,285	339,021	371,113	404,101	442,960
Other expenses (excluding academic hospitals)	69,948	80,524	115,867	130,350	146,644	164,975
Academic hospitals	49,501	66,209	72,504	79,754	87,729	96,502
Inter-university institutions	4,775	6,503	7,653	8,598	9,675	10,888
Grand total of outlays	353,141	455,521	535,045	589,815	648,149	715,325
Receipts, current account						
Registration fees, tuition fees and examination fees	4,938	5,215	5,780	6,115	6,415	6,715
Other receipts	2,610	2,653	3,208	3,509	3,809	4,109
Government subsidies	334,839	430,071	517,751	571,000	627,845	693,460
Own contribution, municipal subsidy .	5,744	7,208	8,306	9,191	10,080	11,041
Balances of government subsidies in previous financial years	5,010	10,374	-	-	-	-
Grand total of receipts	353,141	455,521	535,045	589,815	648,149	715,325
Expenditures, capital account						
Investments, universities and university institutions	276,073	193,811	305,184	305,211	305,211	305,511
Purchase and preparation of building sites	-	-	15,000	15,000	15,000	15,000
Scientific research	11,210	9,800	35,000	35,000	35,000	35,000
Extra equipment	24,923	28,149	40,679	45,969	51,945	58,69[illegible]
Grand total expenditures	312,206	231,760	395,863	401,180	407,156	413,906
Revenue, capital account						
Government subsidies	287,551	227,629	390,229	395,459	401,369	408,047
Own contribution, municipal subsidy . . .	5,495	4,131	5,634	5,721	5,787	5,859
Balances of government subsidies in previous financial years	19,160	-	-	-	-	-
Grand total revenue	312,206	231,760	395,863	401,180	407,156	413,906

Chapter XI

RECENT DEVELOPMENTS IN THE ORGANISATION OF EDUCATIONAL PLANNING AND VIEWS ON THE FUTURE ORGANISATION

1. General

From material in other chapters of this report it is possible to get a general impression of the situation of educational planning in the Netherlands at present and of the development of this planning in the last ten years. Although one has to recognise that much has been done in the field of educational planning, it is clear that what has been done has been of a relatively piecemeal character. Action was undertaken in those fields which presented the greatest problems, but the need for integrated planning of the whole field covered by the Ministry of Education and Science was increasingly evident. All this culminated in a statement by the Minister in Parliament during the discussing of the annual budget of the Ministry in November 1964. The Minister stated that due to the enormous complexity of problems he has to deal with and the difficulties which arise increasingly as a result of fragmentary policy-making, long-term planning for the whole field of competence of the Ministry is necessary. Also he said that it was his intention to promote this type of planning in his Ministry.

Several developments are now under way in this direction. The name of the Research Department has been changed to "Research and Planning Department". A social-economic adviser with his own staff bureau has been appointed (See section 3 of this chapter). The planning activities of the directorate-general of sciences in the field of the universities are now being related more closely to this unit. Forms of co-ordination are now in the process of development.

Systematic study of the goals society sets for education and translation of these goals into a coherent system of educational targets is now under way. Naturally it is not possible for policy-makers to wait for this theoretical structure to be completed. Therefore, alongside these activities, systematic lists of the main urgent educational problems for which solutions cannot wait are being drawn up. Provisional choices about priorities have to be made.

A number of other administrative developments which will enter into the general educational planning process may be briefly listed here:

The establishment of an independent body for the co-ordination of all research in the educational field has already been mentioned. Coordination of the activities of this body with those of the Ministry is carried out through a ministerial delegate (the head of the Research and Planning Department) on its governing board who has special power with respect to some questions.

Also the importance for educational planning of the new Post-Primary Education Act (the so-called "Mammoth Law"), which will come into force in a few years (probably 1968) has already been emphazised and will be further explored.

The establishment of new schools is formally regulated by this law. A new financing system for all the types of secondary schools is being studied. The same is true of the teachers' salary system, in which stress is laid on co-ordination and uniformity. A new department for salaries and other questions concerning the teaching personnel for all types of schools (including pre-primary and primary education) has already been established in the Ministry; heretofore each type of school had its own system of salaries and regulations concerning teaching personnel.

A special committee has been appointed to study a new system of certification for teachers and a new system of training for teachers of all secondary levels.

Apart from this, a whole group of committees under the supervision of the Inspector-General of the Ministry is engaged in devising new curricula for all types of secondary education. These are composed of delegates of the pedagogical centres, national organisations of governing bodies, teachers' organisations and heads of the schools concerned. Experiments are being carried out for the new types of schools mentioned in the Post-Primary Education Act. Also under consideration is the problem of the introduction of new educational methods. A working group composed of members of the pedagogical centres and of the Research and Planning Department is studying the methods of introduction which seem to be most valuable and usable with a view to optimal educational functioning.

It can be said - as is clear from the above - that educational planning activities are expanding rapidly. Although integral planning has not yet been achieved, it seems clear that the developments in that direction are rapid, and it is to be expected that this position in educational planning should be reached in a few years.

It seems appropriate in concluding this section to mention that in April 1965 the scope of the Ministry of Education, Arts and Science was redefined and the Ministry renamed as the Ministry of Education and Science. The directorate-general of Arts and of Adult Education, Youth, Sport etc., has been transferred to a new Ministry of Culture, Recreation and Welfare.

2. The new procedure for establishing schools

In Appendix I information is given of the ways in which the establishment of new schools (governmental and non-governmental) of different types is regulated by the educational laws.

In Chapter VI a new system for establishing schools in post-primary education was described.

The Mammoth Law now legally introduces a planning procedure for the founding or the granting of subsidies to schools. The criteria used involve a combination of prepared school plans and numerical standards on school size which indicate the validity of each proposal to establish a new school. As a condition for the foundation of governmental schools and the granting of subsidies to non-governmental schools, it is laid down that the schools must be included in a plan to be drawn up every year by the Minister of Education and Science covering those post-primary schools which for the next three calendar years will qualify (i.e. on the National Budget) for financing from the Exchequer. When drawing up the plan the Minister (in consultation with the Minister of Agriculture and Fisheries as regards agricultural schools) uses, as a basis, sub-plans submitted by bodies whose aim is to promote post-primary education, and, also, requests by municipalities and governing bodies of schools, together with the State schools which he considers necessary.

The sub-plans and requests to be submitted state the nature and the location of schools which are desired, and are accompanied by a forecast of their anticipated size. Although the law does not make it compulsory it will be important to have the forecasts drawn up by research institutes.

A school will be included in the Minister's plan in any case if the result of the forecast regarding the anticipated number of pupils comes up to the above-mentioned numerical standard, which has been included in the Act for the most common types of schools. In addition to the schools which satisfy the numerical standard, the Minister can also include in the plan other schools for which there is a demand. These may be schools for which no numerical standards have been laid down in the Act, but also schools which, although they do not satisfy the numerical standard, nevertheless fill a real need.

From sub-plans and requests the Minister draws up the central plan. At the same time he designates in the plan those schools whose foundation or claim to a subsidy he intends to encourage in the first year after the drafting of the plan. Within one month after the drafting of the plan, the date of which must coincide as closely as possible with that of the submission of the National Budget, the plan will be published in the Netherlands Government Gazette.

The schools which are included in the plan for the remaining two years will in principle be made eligible for financing in one of those years. Therefore, in each of the succeeding plans those schools will appear whose foundation had been provided for in the last two years of the preceding plan, together with the schools for which new requests have been received and State schools which are considered necessary.

The rule outlined here may be deviated from if a request is withdrawn or if, in the opinion of the Minister, circumstances have occured since the last plan was drawn up which, if they had been known then, would have led to another decision.

An appeal by a governing body or municipality can be made to the Crown against the decision of the Minister not to include a school in the plan or to remove it from the plan.

It may be added that if a school is included in the plan for five successive years, it will become eligible for financing in any case. Furthermore, numerical standards have been laid down in the Act relating to the abolition of schools or the cancellation of the subsidy, as the case may be.

Finally mention should be made of Article 68 of the new law which states:

If the Minister wishes to indicate that a school or a school location other than those requested would be more in harmony with a total balance of education facilities, he is to consult with the requesting body before the formal drawing of the plan. To provide a real check on the sub-plans and requests for establishing schools, a research group is created, consisting of representatives of the Ministry and the organisations which play a role in the Dutch educational system, whose task it is to undertake the statistical analyses needed to draw up a basic integrated plan for all types of schools.

This basic school plan will serve many purposes. For instance apart from providing a check on sub-plans and requests for subsisising non-governmental and municipal schools, it also constitutes a planning basis for the founding of State schools by the Minister himself. It will also supply him with arguments for not including a school or for removing a school from the plan, or for answering appeals to the Crown against his decisions. Furthermore this basic planning study, aiming at a pattern of schools which optimizes educational opportunity, should go beyond its originally limited purpose and should stimulate a higher level of discussion and research on educational matters.

Both in the research and in the elaboration of the above-mentioned basic school plan the Research and Planning Department of the Ministry plays an important role. It is clear that this work must be done in close co-operation with the policy departments of the Ministry. The State-Secretary of Education decided in the beginning of 1965 after consultation with the national organisation of the different denomination that the elaboration of the basic plan must be carried out in close co-ordination with these organisations. In this way it will be possible to come to a general agreement about starting points and premises. Two advantages result from this approach:

(a) The work can be performed in a more efficient way and

(b) In accordance with the Dutch traditions of freedom of education, the social institutions involved in education will play a role in the whole planning procedure from the start.

3. The organisation of the research and planning activities in the Ministry

In the last one and a half years certain decisions were made about the organisation inside the Ministry of Education and Science of the activities in the field of research and planning.

First in February 1965 the name of the Research and Study Department was changed to Research and Planning Department. Apart from this a social-economic adviser was appointed, working outside the department mentioned above and directly responsible to the Secretary-General of the Ministry.

In February 1966 the tasks of the Research and Planning Department and of the social-economic adviser were determined once more by ministerial decree.

Part of the former task of the Research and Planning Department was transfered to the social-economic adviser, who got a staff-bureau at his disposal. The main founctions of the adviser can be formulated as follows: The preparation of reports - in connection with the middle-term and long-term planning - concerning the financial aspects and budgetary consequences of the development of education and sciences. All this especially with a view to the confrontation of the financial consequences of the educational and sciences policy with the structural and conjunctural policy of the government.

The activities of the social-economic adviser include the preparation or collecting of the necessary forecasts dealing with the quantitative trends of the number of pupils and teachers, of the investments and of expenditure.

The task of the Research and Planning Department is now described as follows: "The Research and Planning Department has - for the benefit of a policy based on planning - as a task to provide insight in the goals and the development of education and in the factors, which determine this development, as far as these activities do not belong to the field of action of the social-economic adviser".

The specific division of the activities of both units is now being worked out in co-operation between the two bodies.

It is important to stress the fact that the Research and Planning Department not only functions as a fulcrum for planning activities in the Ministry, but also for the administration and financing of the innovation that takes place in the educational process itself. The

Department administers the funds of the Ministry with which the pedagogical centres are subsidised for their running costs. The budgets of the centres are controlled by the Department, which, in this way, obtains a comprehensive view of all their activities. Subsidies for the research projects of the pedagogical centres and other organisations and for school experiments are also administered by the Department.

Chapter XII

FINAL COMMENT

The foregoing chapters give an idea of the present position of Dutch educational planning. As in most countries, planning started with reference to particular problems which arose at a given time. When these problems accumulated and became increasingly complex, planning also became a more complicated matter.

Techniques and methods are being developed by a process of trial and error. The roles of those concerned with preparation for planning and of those dealing with administration as such had to be clarified. The proper organisation of planning units had to be worked out.

The concept of planning is now gradually becoming clearer. The preceding chapters depict the situation which exists at present.

It is clear that most countries will be found to be in the same position as the Netherlands with respect to these problems. Close co-operation on an international level should, therefore, be regarded as desirable, and will increase understanding of the most important problems. Through such co-operation the various countries will be able to learn from each other's problems and from each other's approaches to the solution of these problems.

In conclusion, it may be noted that in a democratic country the task of planning cannot be confined to technical planners and administrators but must involve the co-operation of all interested parties. Without such co-operation, one may expect to find less than full understanding of the objectives of planning and the decisions based upon it. The role of education in society is too important to take such risks.

Appendix I

The legislative basis of Goal 2

(See Chapter II)

The basis for Goal 2 is set forth in the Constitution. Chapter 12, article 208, says:

> "Education shall be an object of constant solicitude on the part of the government. It shall be freely imparted, save for superintendance by the authorities and - in the case of general education, primary as well as secondary - examination to ascertain the ability and morality of the teacher; all of which is to be regulated by law.
>
> Public relation shall be regulated by law, every person's religious views being duly respected.
>
> In every municipality the authorities shall impart sufficient public general primary education in an adequate number of schools. According to rules to be laid down by law, deviation from this provision may be permitted provided that opportunity is given for such education to be received.
>
> The standards of efficiency to be prescribed for education which is to be defrayed wholly or in part from public founds shall be regulated by law, with due observance, in so far as private education is concerned, of freedom of management.
>
> These standards shall be determined for general primary education in such a manner as to guarantee, to an equal degree the efficiency of private education defrayed entirely from public funds and public education.
>
> In these regulations, the freedom of private education concerning the choice of means of instruction and the appointment of teachers shall, in particular, be respected.
>
> Private general primary education fulfilling conditions to be imposed by law shall be defrayed from public funds according to the same standards as public education. The conditions upon which private general secondary education and pre-academic education

shall be granted contributions from public funds shall be fixed by law.
The King shall cause a report on the condition of education to be made annually to the States-General".

The implications of these principles were first worked out in the Primary Education Act of 1920. The Act regulates ordinary primary (primary school), specialised primary (special school), complementary primary (continuation school) and advanced primary (secondary modern school) education.

The two latter categories, although regulated by this Act, are, in fact, at the secondary level.

Public primary education is - according to the Act - the responsibility of the municipalities, while private primary education is provided by different societies, associations and institutions. The public primary schools are open to all children irrespective of religious convictions or affiliations, and their teachers respect all religious beliefs.

Every municipality must have an adequate number of public primary schools available to the children within its area. The only exceptions are those very small municipal areas in which the number of children who are to attend school is less than twelve.

The management of these governmental primary schools is in the hands of the municipality. The Central Government reimburses the municipalities for the salaries paid to the statutory number of teachers in these primary schools. The remuneration of the teaching staff is fixed by the State. Financial equality in public and private education was, moreover, regulated by the Primary Education Act 1920, so that both forms of education receive grants from public funds, according to the same standard.

Naturally, however, certain conditions must be fulfilled by private schools to qualify for these subsidies. In the first place, a minimum number of pupils must be awaiting enrolment before such a school can be established. For primary schools, for instance, this minimum is 125 pupils in towns with more than 100,000 inhabitants, 100 in towns having from 50,000 to 100,000 inhabitants, 75 in localities with between 25,000 and 50,000 inhabitants, and 50 in smaller towns. When the requisite number of pupils is available, the society or institutions desiring to establish the new school automatically receives the money from the municipality to erect the building immediately after it has paid a guarantee of 15 per cent of the estimated construction costs to the municipality. Naturally, the private institution must satisfy a number of conditions laid down in the Act concerning the standards and content of the instruction (e.g. certificates of teachers, subjects to be taught).

Preparatory higher and secondary education (girls modern grammar school; modern grammar school; grammar school and combined grammar school) is regulated in the Higher Education Act of 1876 and the Secondary Education Act of 1863. For this level of education, financial equality between governmental and non-governmental schools means that subsidies are granted according to the same standards that are applied for financial assistance to State schools.

For the establishment of new schools, however, the system is not automatic. The granting of a subsidy for a new governmental (municipal) secondary school for which State funds are requested, as well as for a new private secondary school, depends on budgetary factors; i.e., whether or not Parliament has agreed to making the necessary funds available. Apert from that, the Minister of Education and Science can refuse subsidies when he decides that there is no real need for the school. The same applies in general to vocational education, which is regulated in the Technical and Vocational Education Act of 1919.

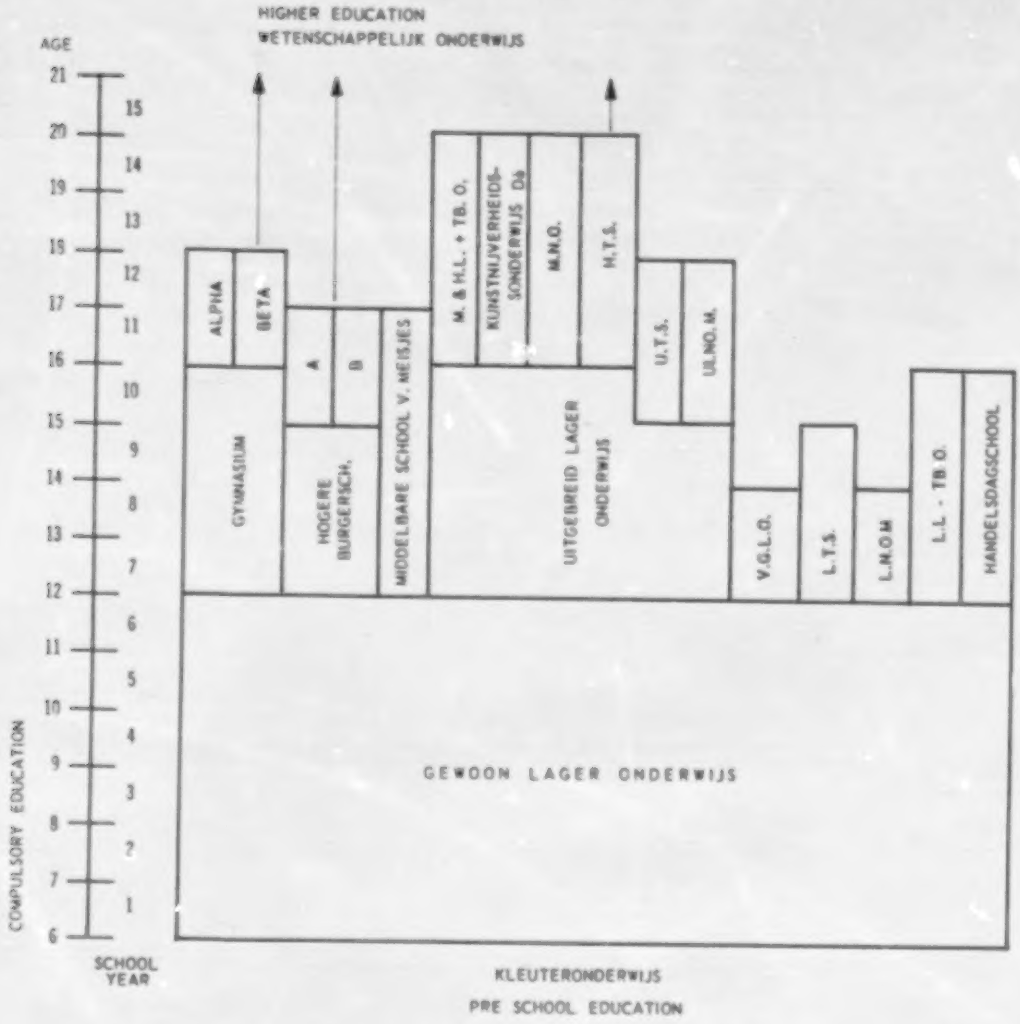
When the Post-Primary Education Act 1963 comes into force (in a few years) the system of establishing new schools will be changed. In articles 64 to 115 rules are laid down for the financing of secondary education. The establishment of new schools will be dependent on the preparation of a school plan in conjunction with the use of a system of statutory numerical standards. (For further information, see Chapter XI dealing with the new school system). The above-mentioned Acts, moreover, contain certain safeguards protecting the right of every citizen to equal educational opportunities. The Primary Education Act of 1920 recognises the possibility of the establishment of joint public schools by small municipalities, especially in those cases where the number of pupils desiring governmental education in each of the localities is very small. The Act also provides the possibility for municipalities to subsidise the costs of transport of pupils living at a distance of more than 4 km. or to create a system of transport for these pupils.

The Acts regulating secondary education, moreover, explicitly place both municipal and non-governmental secondary schools under the obligation to accept all pupils who apply for admission irrespective of religion and denomination, with the exception of schools which have only boarding pupils.

Diagram VI

ACTUAL STRUCTURE OF THE NETHERLANDS EDUCATIONAL SYSTEM

M. & H.L. + TB.O. = MIDDELBAAR EN HOGER LAND- & TUINBOUWONDERWIJS
M.N.O. = MIDDLERBAAR NIJVERHEIDSONDERWIJS
H.T.S. = HOGERE TECHNISCHE SCHOOL
U.T.S. = UITGEBREID TECHNISCHE SCHOOL
ULNO.M. = UITGEBREID LAGER NIJVERHEIDSONDERWIJS VOOR MEISJES
V.G.L.O. = VOORTGEZET GEWOON LAGER ONDERWIJS
L.T.S. = LAGERE TECHNISCHE SCHOOL
L.N.O.M. = LAGER NIJWERHEIDSONDERWIJS VOOR MEISJES
L.L.- TB.O. = LAGERLAND- EN TUINBOUWONDERWIJS


HIGHER EDUCATION
WETENSCHAPPELIJK ONDERWIJS
AGE
21
20
19
18
17
16
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14
13
12
11
10
9
8
7
6
15
14
13
12
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10
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8
7
6
5
4
3
2
1
COMPULSORY EDUCATION
SCHOOL YEAR
ALPHA
BETA
GYMNASIUM
A
B
HOGERE BURGERSCH.
MIDDELBARE SCHOOL V. MEISJES
M. & H.L. + TB. O.
KUNSTNIJVERHEIDS-SONDERWIJS Da
M.N.O.
H.T.S.
UITGEBREID LAGER ONDERWIJS
U.T.S.
ULNO.M.
V.G.L.O.
L.T.S.
L.N.O.M
L.L. - TB.O.
HANDELSDAGSCHOOL
GEWOON LAGER ONDERWIJS
KLEUTERONDERWIJS
PRE SCHOOL EDUCATION

Appendix II

GLOSSARY
(Present system)

Level	Types (Dutch)	Abbre-viation	Types(English)	Description	Years
Pre-primary education	kleuteronderwijs	k.o.	nursery school	education preceding primary school	2
primary education	gewoon lager onderwijs	g.l.o.	primary school	first part of compulsory education; a common foundation for all post-primary education	6
	buitengewoon lager onderwijs	b.l.o.	special school	special education for children who cannot be educated satisfactorily in an ordinary primary school (including children of barge crew members	6-8
secondary education (general) following on primary education	voortgezet gewoon lager onderwijs	v.g.l.o.	continuation school	lower general post-primary education, preparing for life in the adult world, or smooth transition to vocational training proper	2
	uitgebreid lager onderwijs	u.l.o.	secondary modern school	middle post-primary education (non-pre-academic)	3-4
	middelbare school voor meisjes	m.m.s.	girls' modern grammar school	higher general post-primary education preparing girls for life in the adult world or for higher vocational education	5

		hogere burgerschool	h.b.s.	modern grammar school	higher general post-primary education: partly pre-academic education, after 3 years divided into: (a) h.b.s.-A, with emphasis on social sciences and languages (b) h.b.s.-B, with special attention given to the natural sciences	5
		gymnasium	gym.	grammar school	pre-academic education; in the last two years divided into: (a) gym.alpha stream, with emphasis on Greek and Latin; (b) gym.beta stream, with Greek and Latin, but with stress on the natural sciences.	6
		lyceum	lyc.	combined grammar school	a combination of a gymnasium and an h.b.s., associated in certain cases, with a girls' modern grammar school	5-6
		handelsschool	h.d.s.	commercial college	general post-primary education with a stress on training for higher functions in the crafts, the retail trade and the service industry	4-5
secondary education (vocational)	following on primary education	lagere techn. school	l.t.s.	junior technical school	training for lower technical functions in: industry, commerce fisheries and transport	3
		lager nijverheidsonderwijs voor meisjes	l.n.o.	junior domestic science school	training of girls in home economics and other feminine occupations	2
		lagere landbowschool/ lagere tuinbouwschool		elementary agricultural/ horticultural school	training for lower functions in agriculture/horticulture	4
		school voor detailhandel		retail trade school	training for lower functions in: the crafts, the retail trade and the service industry	2-3

Level	Types (Dutch)	Abbreviation	Types(English)	Description	Years
secondary education (vocational) following on secondary education of another type	uitgebreid techn. school	u.t.s.	senior technical school	training for middle technical functions in: industry, commerce, fisheries, and transport	3
	uitgebreid lager nijverheidsonderwijs voor meisjes	u.l.n.o.	senior domestic science school	more advanced training of girls in home economics and other feminine occupations	3
	kleuterleidster opleiding		nursery teachers' training college	training of nursery school teachers	3-4
	middelbare landbouwschool/ middelbare tuinbouwschool		secondary agricultural/ horticultural school	training for middle functions in agriculture/horticulture	1½
	hogere technische school	h.t.s.	technical college	training for higher technical functions in: industry, commerce, fisheries, and transport	4
	middelbaar nijverheidsonderwijs voor meisjes	m.n.o.	domestic science teachers' training college	training of teachers of domestic science schools for girls	4
	hogere landbouwschool/ hogere tuinbouwschool		agricultural/ horticultural college	training for higher functions in agriculture/horticulture	3
	zeevaartschool		nautical college	training of navigation officers, engineers and radio operators for the merchant navy	2-4
	kunstnijverheidsschool		art college	training in applied art with sections for drawing, painting, sculpture, industrial design, etc.	5-7

secondary education (vocational)	sociale academie		social workers training college	training of youth leaders and preparation for careers in similar social-pedagogical fields	4
	kweekschool voor onderwijzers/essen		teachers' training college	training of primary school teachers (first and second phase) and for teacher leadership roles (third phase)	4-5
	leraren opleiding voor het nijverheidsonderwijs (N.O.-akte)		teachers' training for technical schools for boys	training of teachers in junior and senior technical schools: at institutes of the Netherlands Society for the Training of Teachers for Technical Education (mainly evening schools)	6
	leraren opleiding voor het middelbaar onderwijs (M.O.-akte)		teachers' training for secondary schools	teachers' training at institutes preparing for the secondary school teachers' certificates	5-7
	leerlingwezen		apprenticeship system	specialised training for lower technical functions (part-time) in: industry, trade, fisheries and transport	1-2
	vorming leerplichtvrije jeugd	V.L.J.	educational institutes for young people who have completed compulsory education	education for young people who are already at work	
	schriftelijke opleidingen		education by correspondence	education by correspondence in the form of: (a) courses at secondary level (b) popular courses	
higher education	universiteiten		universities	training for academic degrees (in all faculties)	5-7
	hogescholen		special universities	training for academic degrees (in some faculties)	5

Appendix III

GLOSSARY

(Future system)

Level	Types (Dutch)	Abbre-viation	Types(English)	Description	Years
Pre-primary education	kleuter-onderwijs	k.o.	nursery school	education preceding primary school	2
primary education	gewoon lager onderwijs	g.l.o.	primary school	first part of compulsory education: a common foundation for all post-primary education	6
	buitengewoon lager onderwijs	b.l.o.	special school	special education for children who cannot be educated satisfactorily in an ordinary primary school (including children of barge crew members)	6-8
secondary education general (1) continued general education following on primary education	lager algemeen voortgezet onderwijs	l.a.v.o.	lower general secondary school	lower general post-primary education can be given in lower vocational schools (usually one-year course) or in separate schools in a two year course	1-2
	middelbaar algemeen voortgezet onderwijs	m.a.v.o.	Middle general secondary school	middle general post-primary education will be given in separate schools	3-4
	hoger algemeen voortgezet onderwijs	h.a.v.o.	higher general secondary school	higher general post-primary education will be given in: (a) separate schools (b) athenea; lycea and middle general secondary schools (2-year course) (c) teachers' training colleges (the first two years)	5 (2-)5

secondary education (general) (1)		atheneum	ath.	modern grammar school	pre-academic education; in the last years divided into: (a) atheneum-A. with emphasis on social sciences and languages (b) atheneum-B. with special attention given to natural sciences	6
		gymnasium	gym.	grammar school	pre-academic education; in the last years divided into: (a) gym. alpha stream, with emphasis on Greek and Latin (b) gym. beta stream, with Latin and possibly Greek, but with stress on the natural sciences	6
		lyceum	lyc.	combined grammar school	pre-academic education; a combination of gymnasium and atheneum	6
secondary education (vocational)	following on primary education	lager economisch en administratief onderwijs	l.e.a.o.	lower economic and administrative school	training for lower economic and administrative functions in: commerce, industry, transport, government, insurance, banking, etc.	3
		lagere technische school	l.t.s.	lower technical school	training for lower technical functions in: industry, commerce, fisheries and transport	3-4
		lager huishouden nijverheidsonderwijs voor meisjes	l.n.o.	lower domestic science school	training of girls in home economics and other feminine occupations	3-4
		lagere landbouwschool/ lagere tuinbouwschool		lower agricultural/horticultural school	training for lower functions in agriculture/horticulture	4

(1) The first year of each type of secondary education following on primary schools starts with a transitional year. The purpose of this year is to select primary school pupils according to their capacities for secondary education.

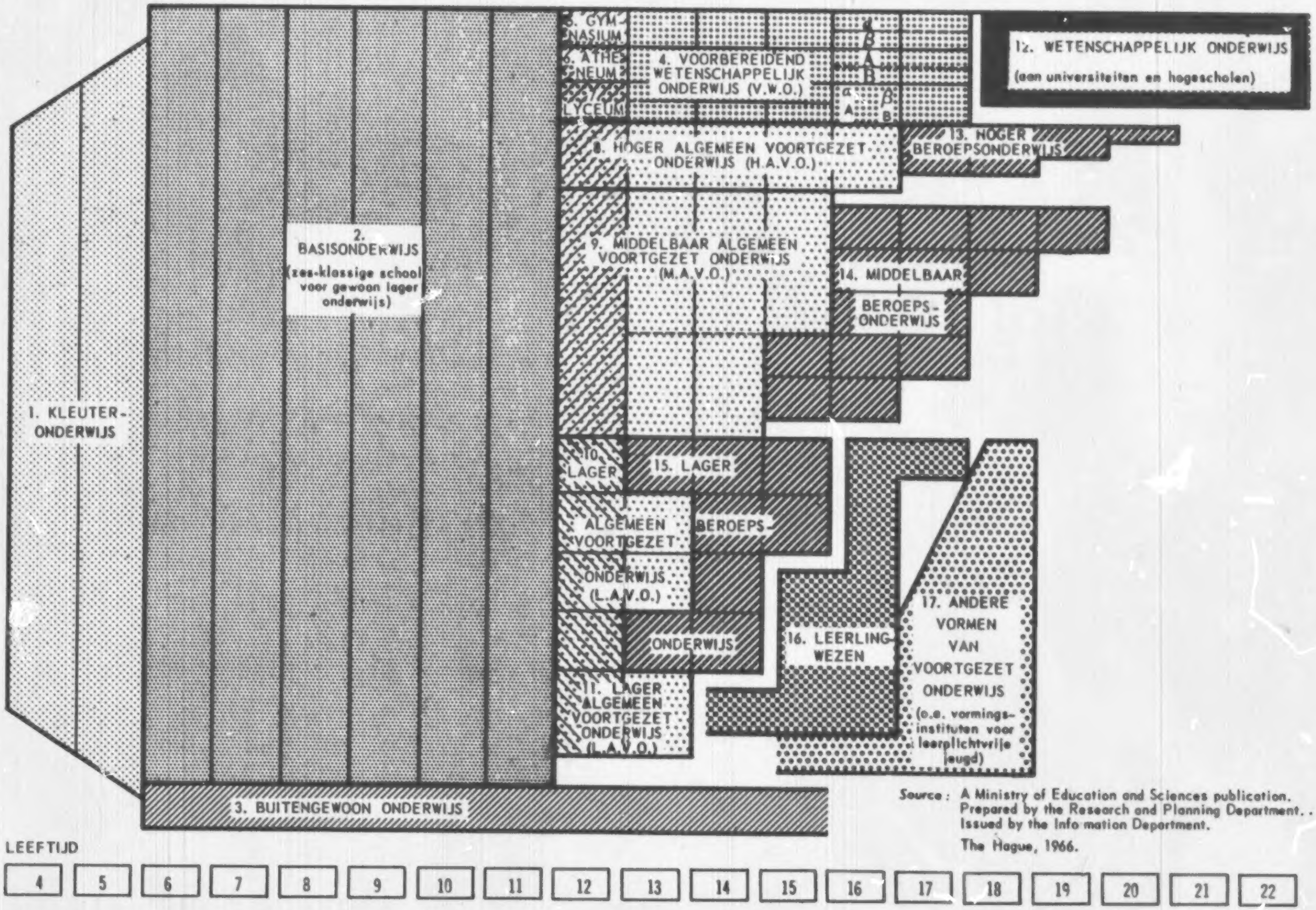
Level	Types (Dutch)	Abbreviation	Types(English)	Description	Years
secondary education (vocational)	lager middenstandsonderwijs		lower commercial school	training for lower functions in: the crafts, the retail trade and the service industry	3-4
following on secondary education of another type	middelbaar economisch en administratief onderwijs	m.e.a.o.	middle economic and administrative school	training for middle economic and administrative functions in: commerce, industry, transport, government, insurance, banking, etc.	2-4
	middelbaar technische school	m.t.s.	middle technical school	training for middle technical functions in: industry, commerce, fisheries and transport	3-4
	middelbaar huishouden nijverheidsonderwijs voor meisjes	m.n.o.	middle domestic science school	more advanced training of girls in home economics and other feminine occupations	3-4
	middelbare landbouwschool middelbare tuinbouwschool		middle agricultural/horticultural school	training for middle functions in agriculture/horticulture	$1\frac{1}{2}$
	middelbaar middenstands onderwijs		middle commercial school	training for middle functions in: the crafts, the retail trade and the service industry	3-4
	middelbaar sociaal-pedagogisch onderwijs		middle social-pedagogical school	training for middle functions in the field of youth work, adult education, social work and public health	3-4
	kleuterleidster opleiding		nursery teachers' training college	training for nursery school teachers	3-4

secondary education (vocational)	following on secondary education of another type	hoger economisch en administratief onderwijs	h.e.a.o.	economic and administrative college	training for higher economic and administrative functions in: commerce, industry, transport, government, insurance, banking, etc.	2
		hogere technische school	h.t.s.	technical college	training for higher technical functions in: industry, commerce, fisheries and transport	4
		zeevaartschool		nautical college	training of navigation officers, engineers and radio operators for the merchant navy	2-4
		hogere landbouwschool/ hogere tuinbouwschool		agricultural/ horticultural college	training for higher functions in agriculture/horticulture	3
		hoger middenstandsonderwijs		commercial college	training for higher functions in the crafts, the retail trade and the service industry	4-5
		kunstacademie		art college	training in applied art with sections for drawing, painting, modelling, sculpture, pottery, gold and silver work, textiles, fashion and advertising design, architecture, drama, music and dancing	5-7
		hoger huishoud- en nijverheidsonderwijs voor meisjes		domestic science teachers' training college	training of teachers of domestic science schools for girls	4
		hoger sociaal-pedagogisch onderwijs		social workers' training college	training for careers in social work, community development, cultural work, youth education, personnel management, health care, and physical training	4

Level	Types (Dutch)	Abbre-viation	Types(English)	Description	Years
secondary education (vocational)	kweekschool voor onderwijzers/essen		teachers' training college	training of primary school teachers (first and second phase) and for teacher leadership roles (third phase)	4-5
	lerarenopleiding voor het nijverheidsonderwijs (N.O.-akte)		teachers' training for technical schools for boys	training of teachers of junior and senior technical schools: at institutions of the Netherlands Society for the Training of Teachers for Technical Education (mainly evening schools)	6
	lerarenopleiding voor het middelbaar onderwijs (M.O.-akte)		teachers' training for secondary schools	teachers' training at institutes preparing for the secondary teachers' certificate	5-7
	leerlingwezen		apprenticeship system	specialised training for lower technical functions (part-time) in: industry, commerce, fisheries and transport	1-2
	vorming leerplichtvrije jeugd	v.l.j.	educational institutes for young people who have completed compulsory education	education for young people who are already at work	
	schriftelijke opleidingen		education by correspondence	education by correspondence in the form of: (a) courses at secondary level (b) popular courses	
higher education	universiteiten		universities	training for academic degrees (in all faculties)	5-7
	hogeschoolen		special universities	training for academic degrees (in some faculties)	5

Diagram VII

STRUCTURE OF THE NETHERLANDS EDUCATIONAL SYSTEM UNDER THE CONTINUED EDUCATION ACT


1. KLEUTER-ONDERWIJS
2. BASISONDERWIJS (zes-klassige school voor gewoon lager onderwijs)
3. BUITENGEWOON ONDERWIJS
3. GYMNASIUM
6. ATHENEUM
LYCEUM
4. VOORBEREIDEND WETENSCHAPPELIJK ONDERWIJS (V.W.O.)
α
β
A
B
8. HOGER ALGEMEEN VOORTGEZET ONDERWIJS (H.A.V.O.)
9. MIDDELBAAR ALGEMEEN VOORTGEZET ONDERWIJS (M.A.V.O.)
10. LAGER ALGEMEEN VOORTGEZET ONDERWIJS (L.A.V.O.)
11. LAGER ALGEMEEN VOORTGEZET ONDERWIJS (L.A.V.O.)
12. WETENSCHAPPELIJK ONDERWIJS (aan universiteiten en hogescholen)
13. HOGER BEROEPSONDERWIJS
14. MIDDELBAAR BEROEPS-ONDERWIJS
15. LAGER BEROEPS-ONDERWIJS
16. LEERLING-WEZEN
17. ANDERE VORMEN VAN VOORTGEZET ONDERWIJS (o.a. vormings-instituten voor leerplichtvrije jeugd)
LEEFTIJD
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Source : A Ministry of Education and Sciences publication.
Prepared by the Research and Planning Department.
Issued by the Information Department.
The Hague, 1966.

Appendix IV

(See chapter IX)

EXAMPLE OF A SCHOOL PLAN

The recently completed "KLOS" Plan dealing with schools for training nursery school teachers is described here in some detail. It may be regarded as an illustration of how planning of schools is carried out in the Netherlands. Plans for other types of schools do not differ to any great extent from the plan discussed here.

Memorandum on the desirable (geographical) distribution of training schools for nursery school teachers

(1965-1970)

1. Introduction

In the introduction the necessity for drawing up the plan is discussed and a survey is given of the subjects dealt with in the succeeding chapters.

2. Number of nursery school pupils expected

(a) First of all, the trend in the number of pupils for the country as a whole and according to age (4-, 5- and 6-year olds) is given for the period 1950-1963, expressed in numerical totals and in percentages of the age groups.

(b) The distribution of the pupils of governmental and non-governmental (denominational and non-denominational) schools is then given for the same period.

(c) Next, variations in participation in nursery school education are considered for each province (administrative unit), and each area which can be regarded as an economic-geographic unit, for which the Central Bureau of Statistics has collected a great deal of statistical material.

The deviation of the regional participation figures from the national figure is traced over a period of years, during which the differences are seen to become smaller, so that one can speak of a levelling tendency.

(d) Finally, the chapter gives a forecast for 1970.

To this end, a statistical analysis has been made of the variation in the participation figures for the regions. Correlation calculations with a long series of possible "explanatory factors" have shown that the participation percentage for nursery schools is very closely related to population density (0.99) and that other factors have little influence. It has been possible to extrapolate the elements of the regression equation for 1970 and to forecast the participation percentages for that year.

To be able to change the percentages into actual numbers, it was necessary to estimate regional population figures for 1970 on the basis of a national population forecast and to calculate the number of 5-year olds expected in 1970.

3. Number of nursery school teachers to be expected

The pupil-teacher ratio was calculated for the period 1950 1963, and was found to have remained constant for a number of years. The pupil-teacher ratio is connected with the maximum size of a class mentioned in the Pre-Primary Education Act. When applied to the estimated number of pupils in nursery schools, the pupil-teacher ratio gives the corresponding numbers of nursery school teachers for the whole country and for each region, subdivided into governmental and non-governmental (denominational and non-denominational) groups of teachers.

4. Estimate of the number of students in the training schools for nursery school teachers

Replacement and extension

From the figures cited in the previous chapter it is possible to calculate how many nursery school teachers will be needed for the required extension of the "corps". In addition, attention must be paid to what is known as the "replacement" need (i.e. the number of new nursery school teachers to be appointed annually to fill the vacancies in the corps). Finally, the number of vacancies filled by teachers coming straight from training schools and by those who have already had some years' of experience has also been analysed. However, only the replacement need has been taken into account for planning the number of schools, as the demand is a recurring and fairly constant one.

The number of newly-trained nursery school teachers to be supplied by the schools in 1970 was calculated with the help of the replacement percentage. An inquiry was conducted on the training schools to ascertain what percentage of newly-trained teachers do not enter on a teaching career. It was then possible to calculate the number of students the training schools must have if enough new nursery school teachers are to be turned out. Since the demand has so far been adequately met by the supply and since the increase in the number of nursery school teachers is not excessive, difficulties in maintaining the equilibrium are not anticipated.

5. The size of a training school

It is necessary to know what size a school should be before drawing up a plan for the distribution of schools. Since no basic investigation whatsoever has been made in this field, the absence of such knowledge is a difficulty in all school planning. A certain line of reasoning has gradually evolved, which is summed up below. Three factors influence the decision, i.e. students, teachers and teaching requisites:

(a) Students

A school should offer every known facility in the branch of education to which it belongs. In other words, where possible, it should comprise departments for every different aspect of that branch, enabling a student to choose and, if necessary, to switch from one to another.

(b) Teachers

A school must have a minimum number of full-time teachers for the main subjects, so that a high standard of education can be provided. There must therefore be enough lessons to occupy a number of teachers fully. The number of lessons depends on the curriculum and on the number of classes in a school, and the classes must have a certain number of students.

(c) Teaching requisites

For economic reasons it is desirable that schoolrooms (particularly those for a special subject, which often requires very expensive equipment) be used frequently enough to justify the money invested in them.

Taking these factors into consideration and knowing the proportion of students in the various departments and in the various years of the course, it is possible to decide upon an "ideal" yet practical size for a school. This was the method used to determine the size of training schools for nursery school teachers (the student aspect of the question was not considered, as training of nursery school teachers entails only one line of study).

6. Comparison of the estimated numbers of students at the new training schools and the actual numbers studying at the existing schools to-day

In this chapter the estimated number of students for 1970 is compared with the present number of students studying at existing training schools to-day in each region divided into governmental and non-governmental/denominational and non-denominational. Taking the empirically-defined school areas of the existing schools as a basis, the necessity for providing more training schools in the future is being examined. The "ideal" size for a training school is being used as the yardstick to test whether an increase in the number of schools would be a wise step from a pedagogical point of view. By thus systematically "sounding" the whole country, as it were, an attempt is being made to distribute training schools in such a way that the aims of education are served as well as possible.

7. Summary and conclusions

The last chapter recapitulates the findings of the investigation and gives the conclusions regarding the possibilities of extension revealed by the school plan.

The closing sentences emphasize once again that the value of the plan is relative, since the foundation on which it has been built is an investigation based on a number of premises and suppositions, the accuracy of which has still to be proved. It is therefore stated that these premises and suppositions must be compared annually with the facts, so that any unexpected development may be detected at an early stage and prompt consideration may be given to revising the plan.

CONSIDERATION AND DISCUSSION OF THE REPORT

Ninth Meeting of National E.I.P. Directors and Representatives, Scheveningen (the Hague): 13th - 15th April, 1966

The main purpose of the Programme on Educational Investment and Planning (E.I.P.) is to help Member countries develop and improve their educational planning machinery and their educational plans, in particular, through an exchange of information on the work being done in each country.

Thus one of the basic activities of the E.I.P. Group at its meetings is to consider and discuss the general educational policy and planning reports prepared by the national educational planning authorities.

These discussions allow members of the Group, normally officials responsible for educational planning services in the different Member countries, to pool their experiences. Furthermore, as is shown by the discussions at Scheveningen, consideration of these reports makes it possible to tackle a wide range of the fundamental problems faced by the educational authorities of Member countries.

Discussions are based not only on the report itself but also on a "technical appraisal" of its various sections prepared by a group of experts largely chosen from within the E.I.P. Group. The different papers considered are set out in Part I of this report. Part II contains a summary of the discussion.

I. EXAMINATION OF THE REPORT

EDUCATIONAL GOALS AND EDUCATIONAL INNOVATION

by
Mary E. Robinson

I. Introduction

It is indeed a privilege to comment on two aspects of the report to E.I.P. on Dutch educational planning. I do so as an individual, and in a professional capacity, rather than as a representative of my government, or the United States Office of Economic Opportunity.

It seems to me that this report makes a very real contribution to the fledgling art of educational planning. First, it deals with all the traditional levels and types of educational institutions - higher and lower, public and private, religious and non-sectarian - and the flow of students through these levels and types, as a systems problem. Secondly, it states the purposes - the inter-related goals - that the total system is intended to serve in a free society and in an age of social and scientific revolution. Third, it stipulates the current-and future quantitative targets for the allocation of resources that will permit the flow of students through the system in ways that will contribute to achievement of most of the overall goals set. Despite the fact that some goals are more clearly articulated than others, and some targets more effectively established, the report is a comprehensive policy document.

In commenting on this report I am, however, very conscious of the brief time I have had to ponder the many aspects of the document. Most of all I am aware that I am commenting without the opportunity to question and probe for real meanings on matters which, without dialogue, one automatically interprets in the framework of one's own experience and sees through the tinted glasses of one's own institutional setting.

With the understanding that other commentators are dealing with other areas of the report, I have chosen to examine two inter-related and highly significant aspects of Dutch educational planning:

(a) The articulation of educational goals and the process of arriving at a consensus on goals, and

(b) The allocation of resources to, and institutional arrangements for, assuring educational innovation. This subject is included in the statement of overall goals and is especially important because it highlights the necessity for revising and re-articulating goals and re-setting targets through time, as the innovating society changes itself through education and through the outputs of the sciences, technology, in arts, and through ammended social and political institutions and values.

II. Dutch goals for education planning

Six goals for educational planning are set forth in the report. They are:

Goal 1

"To develop positive moral and civic values and cultural attitudes among all the people, and to provide them with the skills necessary for self-fulfilment, so that they may appreciate and contribute to the cultural experience of society. To develop not only an understanding of tradition but also the flexibility needed to innovate and accept innovation. To provide for the continuous broadening and deepening of these qualities among the people." (The goal viewed in terms of planning, need not affect the total number participating in the educational system or the process of student selection within that system).

Goal 2

"To maintain the freedom of religious, social and other groups to pursue and intensify their own development. Such private groups in Dutch society have a constitutional right to carry out activities such as education as an extension of their beliefs. It is through these groups that the Dutch people attempt to express and develop their ultimate life-values."

Goal 3

"To provide adequate education for all individuals and groups to the highest levels that they demand." (The formal policy of the Netherlands government is not to tolerate any restrictions upon or limitations of, this principle. Prerequisites for entrance to any school cannot include availability of school places. If a sufficiently qualified citizen stands at the door of any types of school he must be admitted, and it is the responsibility of the appropriate government authorities to anticipate his requests so that school capacity will be adequate to accommodate him).

Goal 4

"To provide society and the economy with the trained manpower resources required for optimum functioning. Within the framework of satisfying the first three major goals, the educational system is required to respond to projected manpower needs."

Goal 5

"To develop a large and increasing capacity in people to adjust themselves to the career and work changes demanded by modern technology."

Goal 6

"To promote the free development of science, providing support for scientific training and research institutions, whose results are available for innovation in society in general and in the economic sector in particular." (In accordance with this goal a significant proportion of total resources for university level education supports research and training activities).

Five of these goals are substantive; that is, they deal with the ends of the educative process and who is served by it. The other, number 2, states as an objective, the reinforcement of pluralistic social order and emphasizes the maintenance of an educational system comprised of multiple public and private religious and non-sectarian performers, all publicly funded; this goal is thus concerned with the educational structure through which the other substantive goals must be implemented. Of the five substantive goals, one is concerned with the universality of distribution of educational opportunity, and one with the comprehensive scope of education. The remaining three goals are concerned with relating education to the nation's manpower needs, and for providing both the research and research manpower needed for innovation for social and economic growth.

The second and third goals, dealing with the universality of educational opportunities and the pluralistic structure of the educational system are linked in the body of the report to an impressive array of quantitative data and targets set for enrolments in the various types and levels of schools, and related targets for facilities, teachers, etc. What is missing is any data or targets on the items above, so disaggregated as to indicate the way these resources are to be deployed in providing the educational content (curricula, materials, methods, teacher preparation) that is related to the accomplishment of Goal 1, which rolls into one statement all the various "social" purposes of education. What are the human proficiencies, skills and insights, and what are the elements of education that are involved in creating the capacities for "positive moral and civic values" and for "appreciating and contributing to the cultural experience of the society"? What planning targets and resources are related to achieving these goals? I find in this report no categories of description, analysis or future action dealing quantitatively or qualitatively with any educational content related to this goal that would lead me to believe that educational planners in the

Netherlands have developed any way of setting about to achieve this goal, indicating targets, allocating funds, or measuring results towards social objectives. What kinds and qualities of curricula, what subjects, what fields of knowledge are necessary to this very general, all embracing social purpose for education is not made clear. Neither are the content characteristics of the various types and levels of schools related to any specification of the way the goal is to be implemented.

Perhaps some of the difficulty lies in the diffuseness with which educational planners have been stating the social goals in planning. In order to be meaningful for planning, goals must be stated specifically enough as to permit planning technicians to organize data in relevant substantive categories to develop lines of substantive action, to establish implementing targets, and to estimate and allocate relevant resources required. In this respect the commentator cannot but be struck with the difference in the specificity with which the educational planning has dealt with the aspects of education that produce skills needed by the labour force, and the aspects of education that produce skills needed for other functional roles critically important to the society - the roles of citizen, community member, parent, family member, etc.

The simple truth is that in most countries educational planning has made considerable progress in how to categorize and quantify the kinds of knowledge and skills relevant to various occupational skills. We have made little progress in analyzing what kinds of knowledge are relevant to proficiencies in man's other functional roles. Until we have posited, developed and validated some educational hypotheses about the relevance of various fields of knowledge in relation to such non-manpower social roles, we will be confronted with a de facto manpower approach to educational planning. This report demonstrates again how soft the non-manpower goals, and their related targets are.

III. Goal formulation and organisation for planning

A second closely related issue is the process of formulating goals and who is involved in formulating them. In the Dutch report, the goal setting process and the dramatis personae is clearly described for higher education. It is not at all clear with respect to goal setting and planning for elementary and secondary education. With the higher education one gets a clear picture of the dialogue between the Ministry and the various planning bodies and groups in the universities, among and between universities, among the scholars and researchers in the various disciplines, and with the users of the highly trained university graduates, in setting or re-setting targets and in formulating and reformulating goals for higher education. With elementary and secondary education one is left with the impression that there is much less dialogue between the Ministry, the various Boards, administrators and teachers in the various types of schools, and that "the plan" is more effective as a device ruling out funding proposals from local public and private school authorities, than it is a device for getting consensus on goals and implementing positive lines of action. I also got the impression that the Parliamentary "noting" of Elementary-Secondary plans submitted by the Ministry is a much more perfunctory matter than the involvement of Parliament in the "debating" of higher education and research policy.

Who is involved in formulating goals of education may determine the degree of clarity and specificity with which various goals are articulated, as well as the readiness with which they can be implemented. I note the paragraph on page 166 that indicates that a searching inquiry into the matter of goals and substantive educational issues is underway and that the goals and targets contained in this report are really only interim goals and targets. It would be germane to know how this inquiry for these new goals and targets is being conducted, and what kinds of individuals and groups are taking part in the discussion. Does this inquiry include philosophers, the sociologists and social workers, the cultural anthropologists, the humanists and artists, the citizen leaders concerned with the knowledge requirements for roles other than labour force role? If the "general" component of education is to be vital, if it is to be related to problems and values of the society, some such scope must be built into organisations that carry on the dialogue between the Ministry, the educators and the world, on the matter of educational goals.

IV. Innovation in education and education for innovation

I think I found the section of the report dealing with education and innovation the least developed part of the report. It seems to me that it constitutes a strong statement of intention rather than a fullfledged plan of action. First, this section deals only descriptively with actions intended to implement the two overall goals (No. 1 and 6) that set forth the role of education in (1) providing research and research manpower, and (2) providing social and technological skills required to adjust to and contribute to a changing society. The section includes little in the way of quantitative or qualitative information about kinds of educational innovation projects underway; kinds and numbers of manpower involved, kinds and numbers of schools ot other institutions carrying on research, development or demonstration. It gives no data on aggregate expenditures, or any data on expenditures for any of the several aspects or elements of educational R & D. Furthermore no meaningful categories for organizing data and information on any of the above problems are established: How much of the "innovation" underway or intended is really research with research controls; how much uncontrolled experiment; how much is curriculum development or renewal; how much is methods research; how much is materials development; how much is new techniques of teacher training or administration, and in or across wnat disciplines or fields, at or across what levels of education or types of schools?

Secondly, a statement in the report indicates that responsibility for innovation rests with various types of schools, and pedagogical institutes leads me to conclude the Ministry of Education has provided little if any financial support for educational research, development, demonstration or dissemination beyond teacher salary supplements. If this conclusion is correct, such a policy seems to me to be in serious conflict with the great awareness of the importance of research in education, and the importance of education to research and development generally and its contribution to society. The statement that the Ministry in the future must bring the resources of the universities and advanced scholarship in the various disciplines to bear on programmes of educational innovation as carried on by the schools and pedagogical centres would seem to indicate that the Ministry intends to involve itself in the educational R & D effort to a much greater degree, though no plan of action is set forth on them.

I did not find any indication, however, that actions to support and stimulate educational R & D in that portion of the educational system under the Ministry of Education and Sciences would be co-ordinated with similar actions in fields of adult education and the arts, now under control of another Ministry.

ECONOMIC ASPECTS

by

Joseph Steindl

I shall try to look at the Dutch Report from the point of view of an economist but this ought not to restrict my view of it unduly.

The Dutch Report is not overburdened with economic data, in fact, it uses them rather sparingly: there are no data on the general economic development up to 1975, there are relatively few data on manpower requirements, especially on replacement demand. Paradoxically enough this may be partly the consequence of the fact that the Dutch are accustomed to use economic planning and are richer in data and experience than many other countries, that they have done already some preliminary work and do not need to start education planning from scratch. Owing to this a great deal of the information mentioned is left outside the Report because it is available in the form of separate publications and documents such as the general economic plan of the Netherlands or various publications on forecasts of manpower requirements. At the same time the question of manpower requirements definitely takes second place in the minds of the Dutch education planners. The first place is taken by certain liberal and democratic principles which imply that everybody is entitled to get the kind of education which he wants to have and that groups of people are entitled to found and run schools in the way they like. These concepts of democartic rights of equal and unrestricted access to education and of liberty of initiative of educational effort dominate the Dutch education system.

It is therefore natural that the analysis and forecasts of "social demand" for education should take a prominent place in the Report, while manpower requirements in so far as they merely serve as a basis for the guidance of students, have a more modest place. In view of the very fast growth of the Dutch educational system and its high cost it is also not surprising that efficiency constitutes another prominent theme of the Report. From the insistence on efficiency, again, flows the interest in educational innovation and reform which is the outstanding characteristic of the Report.

Social demand

The speed of the recent development of the Netherland's education system, as measured by participation rates in secondary education, is remarkable. The number of entrants into the first grade of secondary schools in relation to the number of 12 year olds increased from 51 p.c. in 1940 to 85 p.c. in 1962 for boys and from 43 p.c. to 88 p.c. in the same period for girls. As far as entry into secondary education is concerned, the participation is thus already very high. It is true that only 50 p.c. of an age cohort actually finish secondary education with a diploma (data for 1951 to 1964), but this ratio is high enough as compared with other countries. Simultaneously with the rise in total participation a shift from vocational to non-preacademic education, and again from non-preacademic to pre-academic education has taken place. The participation (entrants of 12 year olds) in the two types of non-vocational school has increased as much in the last ten years as in the previous twenty years.

In spite of the sharp increase in grammar school enrolment, there has been very little change in the social composition of first entrants. (Report p. 65-67). The lower classes (workers, clerks etc.) account for a quarter of the boys and less than a fifth of the girls, and this proportion has been practically constant in the last twenty years. The grammar school participation is now (1960) about two-thirds for the higher social classes, about one-twentieth for the lower, and about one-fifth for the middle classes (Report p. 65-67). A correlation between grammar school enrolment and various social factors in 90 regions of the country seems to show that the occupational structure (proportion of professional and managerial occupations in the male labour force) and income are most closely correlated with participation. Analysis of regions showed further that the regional differences have levelled out and that grammar school participation increased very little in regions with 20 p.c. participation in 1949; the statistical analysis suggests an upper limit to grammar school participation of about 24 p.c.

To forecast future participation rates the Dutch education planners have experimented with various models. They used trend extrapolation first, then modified this by assuming a maximum for grammar schools. They then used a model which was again based on a maximum level of 24 p.c. for grammar school participation, on an assumed levelling out of regional differences, and a reduction [illegible] differences between rural and urban areas. These methods are now rejected by the planning authorities, because the assumption of a maximum participation level is wrong, since the enrolment to a large extent is based on the occupational composition of the labour force, and since the idea of a constant bound set by intelligence reserves has been superseded by the recognition that this bound is elastic and intelligence reserves are increasing.

The model which the Dutch authorities now plan to use starts from the future occupational distribution of the labour force and the number of children in each group, but this model has not been fully developed yet.

The prediction of inflow into universities has been made on the basis of the estimated future number of grammar school graduates, assuming that the percentage of them which go to universities will remain constant.

It should be mentioned at this point that the proportion of freshmen at the university to grammar school certificated leavers is 58 for boys and 22 for girls (1960). There are, however, also other forms of further education for them (engineers colleges, teacher-training colleges).

The total enrolment predicted is shown below, in thousands (table 23 of the Report).

	1950	1960	1965	1970	1975
Pre-primary education	340	400	460	520	660
Primary education and continued primary education	1,240	1,460	1,440	1,500	1,620
Special primary education	35	55	65	85	95
Secondary modern education . . .	130	265	280	280	280
Grammar school education	85	170	210	240	280
Junior technical and vocational education	110	220	235	240	245
University education	30	40	65	80	110
Other	45	100	210	230	260
Total	2,015	2,710	2,965	3,175	3,550

This forecast does not take account of the probable effects of the educational reforms. They are discussed in the Report (p. 78-82), but no quantitative estimate has been effected.

Manpower requirements

The Report's section on manpower requirements is restricted to university graduates and a few categories just below university level - college trained engineers, social workers, school teachers. The method of projection is explained, using as illustrations doctors and engineers. The Netherlands are fortunate to have data on engineers over a long period - back to 1900 - and the predictions were based on a regression of number of engineers on Gross National Product. Results are given for all subjects. Although deficits emerge from the projection for natural science and technology (apart from economics and law) it is surprising that as a percent of demand they are moderate (while, on the other hand, percentage surpluses in certain subjects are considerable).

The authors were probably wise to restrict their interest to part of the whole field of manpower requirements, since the whole field is so large and varied. It will not necessarily convince everybody, however, when they argue that those fields of manpower, which they have excluded, are unimportant anyway, because the training period is short (it may not only be a question of that, but of the time needed to train teachers and provide school room). Also the argument that levels of education are no subject for manpower requirements study cannot really convince: although it is quite true that the tendency for growing requirements of the higher skills is paralleled by an increasing "social demand" for higher education, since both are the consequence of the same technological progress, there exists no corrective which would ensure that an automatic adjustment to requirements takes place.

In my view one of the main functions of planning is to secure consistency. We should, therefore, ultimately aim at a complete picture of the flow of manpower into various occupations, and the way it is fed by flows of graduates coming out of schools. The authors of the Report would perhaps not disagree with that, although they are trying to defend a "piecemeal approach" to manpower studies because, in their defence of it, they mention the checks that ought to be made by comparing estimates for various levels and types of education with each other and ensuring their consistency. But these checks, if they are made systematically, amount to an overall plan which deals with all occupations at the same time.

The need for a study of manpower requirements arises, I think, because there is a need for links between the general economic plan and the education planning. The education plan, on the principle of consistency, has to take account of the general plan. One of the chief links between the two is research and development. This is closely co-ordinated, on the one side, with the direction of industrial development, and on the other hand with requirements for the highest skills. Perhaps on this point the Report might have been less reticent.

A special planning problem arises in the case of requirements of teachers. Owing to the decline of the rate of expansion of the educational system the demand for teachers will strongly decline in the 1970's. As a consequence surpluses will appear especially in primary education. The problem may be less acute if the ratio of pupils to teachers is to be reduced.

The requirements of university teachers on the other hand will be very difficult to satisfy. The improvement in the ratio of students to teaching staff is very ambitious (a reduction to about one half from 1950 to 1975).

Efficiency

Efficiency, in the terminology of the Report, has two aspects: external and internal efficiency. External efficiency is a measure of the extent to which the educational system has reached the goals set for education which the Report has set out in detail in Chapter II: for example, to provide adequate education for all to the extent they demand. Thus participation rates will be one measure of external efficiency. Internal efficiency refers to the relation of input and output of the educational system. It is closely related to the drop-out.

The interest in (internal) efficiency evidently springs from the specific situation of the Netherlands: expenditure on education and culture in 1965 amounted to 25 p.c. of the government budget in 1965 (against 8.5 p.c. in 1951). In relation to gross national product it rose from 2.6 p.c. in 1950 to 5.6 in 1965; it is expected to rise to at least 8 p.c. in 1975. This cost is really extraordinary; one would naturally like to know whether it is due only to the high participation rates and the relatively good staffing of the schools or whether and to what extent it is also influenced by the "plurality" of the school system, what the Report calls the "tri-section" of the system into catholic, protestant and non-denominational schools, existing side by side with governmental non-denominational schools. This system presumably creates a bias in favour of small schools, and the Report shows, on the basis of regression data, that large schools are cheaper per pupil than small schools. The private schools are subsidised by the government, the principle being that any private school ought to be provided as well as the same type of government school. Formerly the grants were given per pupil and based on the expenditure of government schools per pupil. The Report shows, very convincingly, that this meant paying too much for large schools and too little for small ones. This has now been taken account of by a more complicated system of subsidies. The old system, hewever, had the advantage of discouraging small schools by paying too little for them. Apparently this is now to be replaced by more direct action of the education planning authorities designed to prevent the establishment of inefficient schools.

Internal efficiency is of obvious interest in the Netherland's situation for still another reason. Once the initial participation in secondary education has reached 90 p.c. it is obvious that interest must more and more be shifted to the question of retention (or drop-out). For the whole of the secondary school system of the drop-out is about 40 p.c. (1951-64). The Report stresses the need for research to analyse the reasons for the drop out (p. 62). The new education laws inter alia aim at a state in which everybody who inters secondary education will leave it with some kind of certificate.

Efficiency should not be measured merely by drop-out. Length of study is significant too, especially in universities. The Report states that the length of study has increased on the average by one year since the time before the war.

Innovation

To ensure that the great sums of money are well spent, that the drop-out will be reduced, the education planning authorities in the Netherlands envisage carrying out a large number of educational research projects, the running of experimental schools and the encouragement of innovation in education. The bases of educational research are the (private) pedagogical centres and the universities. A list of experiments and research projects is given on p.p. 93-94 of the Report.

As the Report states, the wish to reduce the drop-out is an immediate reason for the interest in innovation. The size of the drop-out in schools and universities, the number of repeaters, the length of study in universities are statistical evidence that something is amiss in the educational system.

This is, of course, the case in many countries. There are special reasons why the Netherlands should be in the fore-ground in their demand for innovation. One reason is that the "plural" system, in contrast to a uniform and thoroughly regulated system of education, unquestionably proves a fertile ground for innovation and experiment. Experiments are obviously easier if they need not be carried out on a national scale and if changes can be brought about by stages. Selective learning of the best ways in education can be achieved with less difficulties than elsewhere since the system offers so many opportunities for initiative.

Another reason for the Netherland's interest in innovation is the fast growth of the education system and the high participation reached in secondary education. Sooner or later this must raise quite new questions and lead to new aspects which are not explicitly discussed in the Report but which I should like to indicate briefly. The tremendous increase in the scope of secondary education is in itself a sufficient reason for a fundamental reconsideration of the whole content of education also prior to secondary education. What happens is that the function of elementary education has completely changed. As originally conceived this education was to give to the vast majority of the population in a brief time a sufficient preparation for vocational life. It therefore had to concentrate on aptitudes and dexterities (the three R's) which for example in the case of arithmetic makes education similar to the teaching of tricks which is practised on circus animals. In this way it conditions most pupils against any understanding of the subject which they might otherwise be able to acquire later. For various reasons, moreover, elementary education means for a considerable proportion of the pupils an intellectual underfeeding. In a state in which the majority of people get a secondary education the function of elementary education must be reconsidered and adapted to its role as a preparation for further education. The tremendous unused reserve potential of elementary education which according to many educationists exists may now be used to lay the basis for further education in various fields; for example mathematics, languages and so on.

The recognition that the various stages of the school system are linked also leads us to see that the drop-out in universities depends on the efficiency of the secondary school and in the last resort of the primary school.

Another aspect of innovation, not specific to the Netherlands but very general, may also be briefly mentioned here, although it is not dealt with explicitly in the Report. From the point of view of an economist the motive for educational reforms and innovations arises from the needs of economic development and growth. It is a consequence of paying heed, in a more sophisticated manner than the studies concerned with numbers of graduates to the requirements in manpower of the growing economy. In fact, as far as the requirements of the growing economy are concerned, the question of quantities recedes into the background compared with the question of the kind of education required. Nothing could be more striking from an economist's point of view than the contrast between the rigidity and immobility of teaching methods and contents of teaching in most countries on the one hand and the development of science and the economic system on the other. Nothing should be more obvious at the same time to an economist than the intimate relation between what the school makes of the youngsters and the role they are expected to play in the economy. The economic development according to our present understanding is itself nothing but a process of learning and what we call learning in school is only a shortcut by which the experience of mankind over long times is acquired in a brief space. But while in the learning process represented by economic development experience and selection operates, the "education industry" itself has tended to exclude to a great extent both. Innovation concerns not only the question of the methods by which a certain education is produced and the efficiency of the process but also the kind of output that is produced, the qualities and aptitudes, more, the whole type of mind which is produced by the education. Educational research will have to be concerned, not the least, with the question of this relation between the needs of modern society and the contents and methods of education.

For all these reasons I think that the Netherland's Report has set up a good example in giving such a prominent place to the question of innovation.

THE GENERAL PLANNING BACKGROUND FOR THE SECONDARY SCHOOL REFORM

by
Alan Little

Clearly the detail of a "plan" such as this is of particular interest to the country for which it was intended. What is of interest to a wider audience is the nature of arguments used for policies adopted ot the methods of educational projections utilised to either support a particular policy or assess its implications. However, at the outset, one general question might be asked; namely, how far a report can be assessed merely in terms of its content. The third paragraph, chapter 1, specifically refers to the way in which the preparation of the report "stimulates thinking about the present role and future organisation of educational planning in the Netherlands". One might argue that not merely the preparation of reports, but also the plans themselves do not only set educational targets, but because they are specific about educational objectives and strategies, enable a far more informed and critical argument about policy. Numerous writers have called attention to the lack of specific and clearly stated objectives in social policy. Reports such as this do much to negate such observations.

However, the report notes how educational projections tend to be superseded by events, and as a result it is tempting to be sceptical about such exercises. Such a position seems to me to be a fundamental misunderstanding not merely of the nature of projections and predictions (they are not prophesies) but more important they ignore the secondary benefits of clearly specifying the implications of particular policies and the assumptions and values upon which the policies are based. In consequence, the "power" of plans and targets to generate informed discussion should not pass unnoticed.

Without underestimating the significance of the last observation, it is worth considering the relationship between projections and experience a little more closely. The experience in the Netherlands, like that of many countries, has been one of rapid increases in educational enrolments over the past decade. In the Netherlands the clearest illustration relates to university expansion between 1955 and 1963 (see table 24): in these 7 years student admissions increased to a figure that in 1950 was projected for 1970. One wonders why early projections were such underestimates and to what extent it is possible to learn from such underestimates not only improved methods of forecasting, but perhaps more significant something about the social, economic, political and psychological factors that underpin transitions from one stage of education to another. It is only when we have a better understanding of the relationship between these factors and between educational performance that we will be able to radically improve our shortrun projections. The general problem embodied in this observation is that we must find some way in educational planning of learning from experience which may mean learning from our mistakes.

The parts of the report that require closest srutiny seem to me to be, not the actual assessments made of Dutch secondary education in either a quantitative (i.e. numbers participating) or qualitative (i.e. the type of educational experience obtained) sense, but the rationale behind them. The outstanding merit of this report is the attempt to specify the assumptions both in terms of social values and statistical methods, that underpin the thinking in the Netherlands about both the structure of education and the numbers receiving it. Therefore, I will comment upon these assumptions.

The report can be broadly divided into two parts; the plans and their costs. It is the former that is of widest interest, largely because in the Report the "cost" is to no small extent seen as a function of the "plan". Whether in reality this is a correct assessment of the relationship between plan and cost is not relevant at the moment. However, it occurs to me that we more often get the education system we think we can afford, rather than afford the system we think we ought to have. Given this point, for the remainder of this commentary, cost factors will be ignored, and for the sake of clarity, I will make my comments under a series of numbered points. The actual order does not necessarily relate to the importance of each point.

I. General rationale behind the plan

The report opens by describing the three factors behind recent interest in secondary education, namely demographic factors, the trend for more young people to stay in full time education, and the changing nature of contemporary industrial society. The point about both the birthrate and voluntary enrolment numbers is clearly a widespread phenomena in Member countries. Further, it can be fairly precisely documented and in a sense it constrasts markedly with the next point about "increasing swift changes" in modern societies and the need of education to adapt to "tomorrow's needs and trends". Without wishing to deny the validity of a general position which says that educational policies must be responsive to societal needs, it is possible to suggest that although phrases like these continually crop up in reports about education, it is doubtful if they have been given any precise meaning. My guess is that as far as this plan is concerned "lip service" has been paid to them. If it is more than this and has some significance for what is taught in the schools, who it is taught by, to whom and by what methods, then they are worthy of explicit expansion. Because these are the questions that require answering in every educational system and are rarely explicitly answered.

In a sense this report has certain general statements that few would object to as general statements; the planning problem is how can they be translated into an educational policy. It is this exercise that is both technically difficult and also where disagreement may enter. For example, what sort of educational structure, with what sort of curricula fits a child or young person "to meet swift change" in a social structure? In another way what educational structures (both quantitative and qualitative) can be derived from this statement? As they stand, the educational goals are statements of intent rather than explicit exercises in educational planning.

II. The notion of priorities in social policy

Consideration of priorities in social policy seems to me to be one of the crucial but much neglected areas in these discussions (cf. page 2). These priorities are not merely within education (e.g. needs of primary and secondary education, possible conflicts between the need to increase pay to teachers, and more school buildings, etc.) or within social policy (education versus health or education versus social security, etc.), or social spending versus other forms of public expenditure (defence-administration, etc.) or widest of all, public consumption and public investment on the one hand compared with private consumption and private investment. These are all overlapping categories and I would welcome some more discussion about how the Dutch Government envisages their resolution within the next decade, with particular reference to not only the priority of education in public expenditure and the priorities within education but how these priorities were derived.

A further way of asking the same question, is how educational planning and costing is related to the general economic and political planning in the Netherlands. What, for example, is the priority placed by the Netherlands government on education and how is this related to other fields of social and economic policy. Further, what is the origin of this relationship? In principle the same point can be made about a later section of the report, that on Efficiency (c.f. Chapter VI) without in detail questioning the logic of this section, I wonder how far thinking about cost and benefit (or cost effectiveness) has permeated thinking about educational policies and the priorities given to particular aspects of educational policies? More generally what place can such tools have in educational planning and policy formation?
Three types of question have been asked in this context. One type relates to the priorities within educational policy and between it and other aspects of special policy. In turn these give rise to a series of questions about the organisation of research and planning in education and its relationship with other governmental departments (see pages 121 and following, especially 165-171). The second type of questions point to the origin of such priorities, how they are derived, how articulated and how related to policy. A third set of questions is about the specific role or new techniques that can and policy formation and decision-making, for example, cost benefit analysis

III. The concept of educational goals

As has already been sugested the specification of "goals" is most welcome, but more detailed discussion is needed on the educational implications of these goals. For example, the following interlocking points:

(a) how do the goals reltate to educational planning: the plan tends to assert that the goals have implications without specifically telling us how they relate to what is taught, how, to whom, and in what sort of schools. In other words how the general goals are translated into educational practice, both quantitative and qualitative.

(b) what is the priority between the goals. The plan seems to suggest that goals 1 to 3 are more important than at least 4 (i.e. "goal 4 has to be met within the framework of specifically the first three major goals". What is the rationale of this priority and how systematically has it been worked out?

(c) further, this qualification suggests that there may be some conflict between these goals and as a result some choices will have to be made between them. At what stages of education is this likely and what sorts of conflict can be expected? Goal 2 (the social demand) and goal 3 (the economic) spring to mind as possible examples of potential sources of conflict.

(d) is the priority of goals the same throughout all stages of education and for all sorts of education? Or does the priority differ between stages and types of education, and therefore will the nature of conflicts between goals differ in different stages of the system? To think in terms of hypothetical example, are social demand arguments (goal 3) of greater significance to primary education than economic demand (goal 4)? Further, is this relationship reversed for secondary or tertiary education? This example is hypothetical but it serves to illustrate the possibility that general social and educational goals do not have a fixed relationship at different stages of the educational process or over time. What I want to suggest is that it is inadequate merely to assert these goals, the relationship must be worked out in detail for all levels of education.

(e) how far is it possible to derive from goals an educational policy about stages and types of education and who gets it? For example, goal 3 states that the aim of the plan is to provide education of "the highest levels that they demand". Is this an overriding aim - or will it have a reservation of demand plus capacity or measured performance? For example, later on, an opening sentence refers to "qualified individuals". How far is this a necessary reservation to goal 3?

(f) further, the report postulates "voluntary conformity of individuals to social and economic demands". This may be a necessary working assumption, but is it one we can push too far? In a sense, later parts of the plan outline "guidance" in schools and "orientation years". This suggests the part of educational policy is to ensure this "voluntary conformity" by including either in the curricula or structure of education consistent attempts to guide and orientate.

(g) this point can be made even stronger. How far does the educational system itself in a sense create its own demand? Put a different way, educational planning can be seen as a set of responses to demographic, social and economic pressures. But is it also possible to give the educational system a more positive role? There is some discussion in the latter part of the report about the impact of legislative change on educational demand but the bulk of the report sees the educational system as responsive to external pressures. Might not this "responsive" role underestimate the significance of education? How far is it possible to suggest that education can create its own demand?

(h) however, the main question to be discussed in this context is the relationship between educational goals as specified and educational practice. Three questions stand out in this area, who shall receive (i.e. how many), what sort of education (i.e. curricula and methods of teaching), in what sort of schools (i.e. structure of the school system). I would like to see derived from these goals a coherent set of answers to these three basic types of educational questions, which are common to all educational systems. Further, I wonder how far the articulation of social and educational goals helps with the solving of these educational questions, and how far the goals articulated in this report make either historical or contemporary sense of the system of education in the Netherlands.

(i) Further it is worth noting that in broad terms these goals can be found in statements about education in most Member countries. Where systems differ is in the priority given to these goals and in a sense these differences may explain national variations in past and current educational policies.

IV. The administrative structure

Administratively, the Dutch system is complicated not merely because of the distinction between denominational and non-denominational schools, but also because of its decentralisation of administration into regional and local areas. This introduces complexity into the structure in terms of both the plan and its projections, as well as in effective implementation. All of these things tend to be a function of the locality rather than the centre. One wonders how far the "system of financing is one of the instruments by which the Dutch educational establishment is governed", is a way around those problems, and as such financial policy becomes a powerful means of achieving uniformity in a highly decentralised system. Again this is a widespread problem in many countries in which the relationship between the central and local government is complicated. Of special importance here is the existence in most countries of areas of educational underdevelopment (e.g. rural areas, certain regions, and areas of great working class concentration). Admittedly research in the Netherlands suggests that regional variations in educational enrolments are the result of regional differences in class composition (see p. 64 and following), but this finding simply results in a restatement of the regional problem, instead of the elimination of regional differences it becomes the elimination of class differences. I wonder how far the distribution of scarce resources (teachers, buildings, equipment and ultimately "finance") could overcome many of these differences in enrolment rates. In terms of a specific question to what extent can the uneven distribution of educational participation be alleviated by a conscious of financial policy.

V. Variations by class in educational participation

Without questioning either the statistical usefulness of trend lines or operating on working assumptions like the ones used in the report (e.g. areas of poor educational performance will improve to a level approaching that of good areas), I think the argument at this stage is confusing. Clearly, co-relations exist between social classes (and/or occupational distribution) and educational performance, and that these co-relations are relatively stable over time. However, occupational distribution is of limited usefulness as an explanation of the recent performance of educational systems. For example, changes in social class or occupational distribution cannot explain the significant increase in educational retention rates in all geographical areas in the Netherlands over time (see table 9). The statistics presented in the body of the plan document the three points namely,

(i) Existence of class differences in educational opportunity;

(ii) Stability of class differences in educational opportunity over time;

(iii) Increase in educational retention rates over time in all social classes and geographical areas.

As far as future educational projections are concerned, it is the factor behind the third point that may be the most potent factor influencing the future educational enrolment rates. Further, for purposes of planning, this trend towards increased educational enrolment has surely been more significant both as an educational phenomenon and also as a factor generating the impetus to educational planning than the stability of both class and regional differences. Admittedly for some planning purposes trend extrapolation can cope with this problem: but for certain purposes we need to understand why these changes are happening. In other words we need to explain social demand not to assert it. This exercise of explanation requires specification of the elements that make up social demand, and the relationship between them. Unfortunately existing techniques of "trend analysis" ignore these problems.

VI. Labour force composition and educational enrolment

Because of this I would question the logic of the first paragraph of page 68 in which labour force composition is taken as a determinant of grammar school enrolment. Clearly changing occupational composition may generate changing educational demand. But how significant is this trend compared with other forces in the social structure? Surely the secular trend of increased educational enrolment over the past 20-30 years has little to do with changing labour force composition, although it may have something to do with people's changing perceptions of the labour force, or occupational groups upgrading their educational demands of entrants. Although labour force composition correlates with observed differences in educational enrolment at one point in time, it cannot explain the dramatic increases in enrolment over time. Further this problem of increasing enrolment is as worthy of attention as the apparent stability in class differences in participation rates over time.

VII. Manpower forecasting and educational enrolment rates

Point (a) on page 68 seems questionable in the light of my argument under section I above. The biggest change taking place in education is either demographic, i.e. increase in the birthrate, or the trend towards voluntary continuation of more young people into higher levels of secondary education. Over the past decade this has far outstripped "occupational distribution and occupational change". Therefore any estimate of future educational demand based upon a mixture of occupational estimates and enrolment ratios, is likely to miss out this trend. On this point, it is interesting that the only level of education in which manpower demand is discussed in detail is in higher education. Several points seem to be relevant here.

(a) In what sense can notions like manpower demand explain both the enormous increase in university students in the 1950's and an increase far outstripping projections made earlier in the 50's (See table 24).

(b) In higher education the numbers involved are relatively small. Frequently faculties are closely related to occupation (e.g. medicine, engineering) and significant parts of education can be seen to be largely acquiring job skills. Finally training highly skilled manpower can take many years and therefore "manpower" forecasting is of crucial practical significance.

(c) But how far is this true of other levels of education, (e.g. primary and secondary) in a rich society? Where a mixture of available resources and parental and general socio-political demands seem more important determinants of educational involvement. Clearly this relates back to the earlier discussion of goals, their inter-relationship and priority. In this specific context it is worth asking what happens when educational projects and parental desires conflict. In relation to social class participation (working class) we define this as a problem to be solved. What happens in a situation of too high educational aspirations (i.e., out of step with the child's abilities or the community's resources) or in other areas of possible differential participation in education (e.g. religious ethnic groups).

(d) Further, it may be of limited usefulness in certain other faculties of higher education (both in the humanities and in the parts of the natural and physical sciences) which do not have close and clearly defined specific occupational connections.

(e) One reason why you may have had increases in voluntary enrolment in higher education is that increasing numbers of occupational groups are beginning to demand prolonged secondary and higher education as a pre-requisite for entry, but whether this process started before or after educational expansion is uncertain, and both may reinforce each other. One possible argument is that in the foreseeable future, higher education will expand because of pressure of student demand from below and the occupational structure is likely to react to this by the process of up-grading the educational demands made by specific occupational groups. The predictive problem with this statement is the intrinsic difficulty of determining which occupational groups are likely to up-grade their educational demands in the future.

(f) If this is accepted, manpower forecasting might be useful for faculties which have clearly established existing relationships with specific occupations, but it is unlikely to help us understand the increase in the ranges of occupations beginning to demand higher education as a requirement for entry. As a result, it might be better to discuss the expected number of entrants to higher education and assume that sufficient employment opportunities will be available for many types of graduates.

(g) Manpower assessments can have three areas of use in educational planning: the obvious one of estimating what numbers of people should be educated. Linked with this is its usefulness for emphasising the type of education that people should receive. Less obvious than being the assessment of either numbers or lines, is manpower planning as a tool for aiding the school system in its task of vocational guidance and career choice. Although we may be pessimistic at the moment about the contribution of long range manpower forecasting to answer questions about how many people shall receive what sort of education, a more limited role in aiding vocational guidance may be of considerable significance.

VIII. Denominational schools and educational innovation

How far is this a real problem in higher education? Table 2 indicates that denominational emphasis tends to be in primary and certain sorts of secondary education. Further, as the level of education increases so the contribution of denominational schools diminishes. The role of denominational schools in technical education also seems to be small. Over time, what is happening to the contribution of denominational schools in secondary education in general and is there any "policy" on this?

This last point relates to observations made in the Report about the problems of educational innovation in a decentralised structure with denominational schools. It seems that for technical and higher education the majority of people are outside the denominational influence and therefore in these fields of education resistance to acceptance of educational innovation might be a limited problem.

IX. Education's social role: responsive or creative?

Page 77 and following is illustrative of a change in the logic of the plan. Early sections suggest that education has been responsive to a series of external pressures and the system itself not having any generating power, whereas here education is seen as a means of actually influencing some of the factors that previously were seen as independent variables affecting education. The independent significance of education in creating its own demand is a relatively unchartered field, but I cannot help suspecting that a combination of the following two hypotheses:

(a) Education creates its own demand for more:

(b) There is a time lag between educational provision and the creation of further education demand;

might well explain many of the observations made in the report (both trends over time and observable distribution at any point in time), with greater economy of effort than the explicit and implicit hypotheses contained in the report.

This point is also worthy of more extensive consideration in terms of whether we should primarily consider the educational system responding to external pressures or in fact creating these pressures. On the whole the Dutch plan sees education as being responsive. I wonder whether this is a tenable explanation of past experience, but more important, whether in fact it enables us to predict future educational trends? In a sense, will all our forecasts about future educational enrolment be invalidated by our failure fully to understand and measure the way in which educational systems can generate their own demand for more education? In this context the practical problems of forecasting may be more easily solved than the theoretical problem of understanding. Nevertheless this should not blind us to the importance of economic and social factors in educational demand. Further, we should not be content merely to state them as pressures but also measure their contribution, and to assess the stability of their significance over time and for different stages of the educational process.

X. Research and policy making

I feel the point about educational policy being unable to await all relevant information is of considerable importance. It might well have come much earlier and been given greater and more systematic attention. The relationship between social policy and social research is a complex one: it is tempting for a social scientist to assume that action must wait for research. This report contains a useful and necessary correction to this point of view. Clearly the inter-relationship between research and policy needs considerable thought, and I would welcome some comment on this inter-relationship based upon the Dutch experience. In particular ways in which an educational programme can be devised which includes built in methods of documentation, experimentation and research, and a continual cross fertilisation between the policy makers, the teaching practitioners, and the research workers. In a sense, how can a system be divised that is self-reforming? This is not to assume that the system will be entirely self-sufficient. Clearly education will always respond to a variety of social, economic and political pressures. The suggestion is that part of the structure of the educational system ought to be a research and development section. Further, there is a danger in seeing the problems of education purely in research terms. Many educational difficulties are not the result of lack of knowledge or techniques, but an inability to communicate existing information to all parts of the system and practitioners in it. Here the problem is one of communication. How for example, can existing teachers be informed of new methods of instruction?

Problems like this one are not primarily research problems but developmental difficulties. Finally to repeat an observation made earlier, some relationship has to be worked out between educational policy and research and other aspects of government policy and research. Here there is a problem of general coordination of public research and development departments.

XI. Concluding observations

The burden of the argument in this paper is to suggest that the adequacy of the Netherlands Plan is best assessed in terms of the assumptions that underpin it. Basically, two types of assumptions have been considered:

(a) The objectives of Dutch education as far as these have been specified in terms of educational goals. In a sentence the question asked is in what ways have these goals been translated into educational policy, in the sense of how many young people receive what sort of education in what sort of educational institutions. It is on this level that more detailed discussion might take place, not only in the Netherlands but also at these meetings. These discussions should be concerned to specify educational goals and in detail to show how they relate to educational practice.

(b) The projected number of students receiving particular types of education. Again in a sentence, three types of estimates seem to have been made in this report: trend lines based upon recent experience, the occupational and clear distribution of the population and manpower estimates. The critical point made in this paper is how far these estimates give us an adequate basis for policy. The question for discussion might be couched in the following terms: how far can we see educational systems and policies (in both qualitative and quantitative terms) as responsive to external demographic, social, economic and political pressures, and how far should we be seeing the role of education as more positive than this. In fact can we envisage education creating many of these economic, social and political pressures. My argument is that only when these points have been met, can the detail of the plan be adequately assessed. Either in terms of the reform of the system itself, its structure, curricula and methods of instruction or numbers of peoples going through it. In a phrase, a variant "Parkinson's Law" might operate in education. If work expands to fill the time available for its completion, then education expands to meet the social and economic pressures it has helped to create.

PROBLEMS OF EDUCATIONAL RESEARCH PLANNING

by

Eskil Bjorklund

Educational planning comprises many extensive and complex problems. Very broadly they can be divided into quantitative and qualitative problems - quantitative referring to number and types of schools, etc. and qualitative referring to content (programme, methods, etc.). Planning and research are needed in order to handle both these aspects. We may therefore distinguish four main action areas:

Figure 1

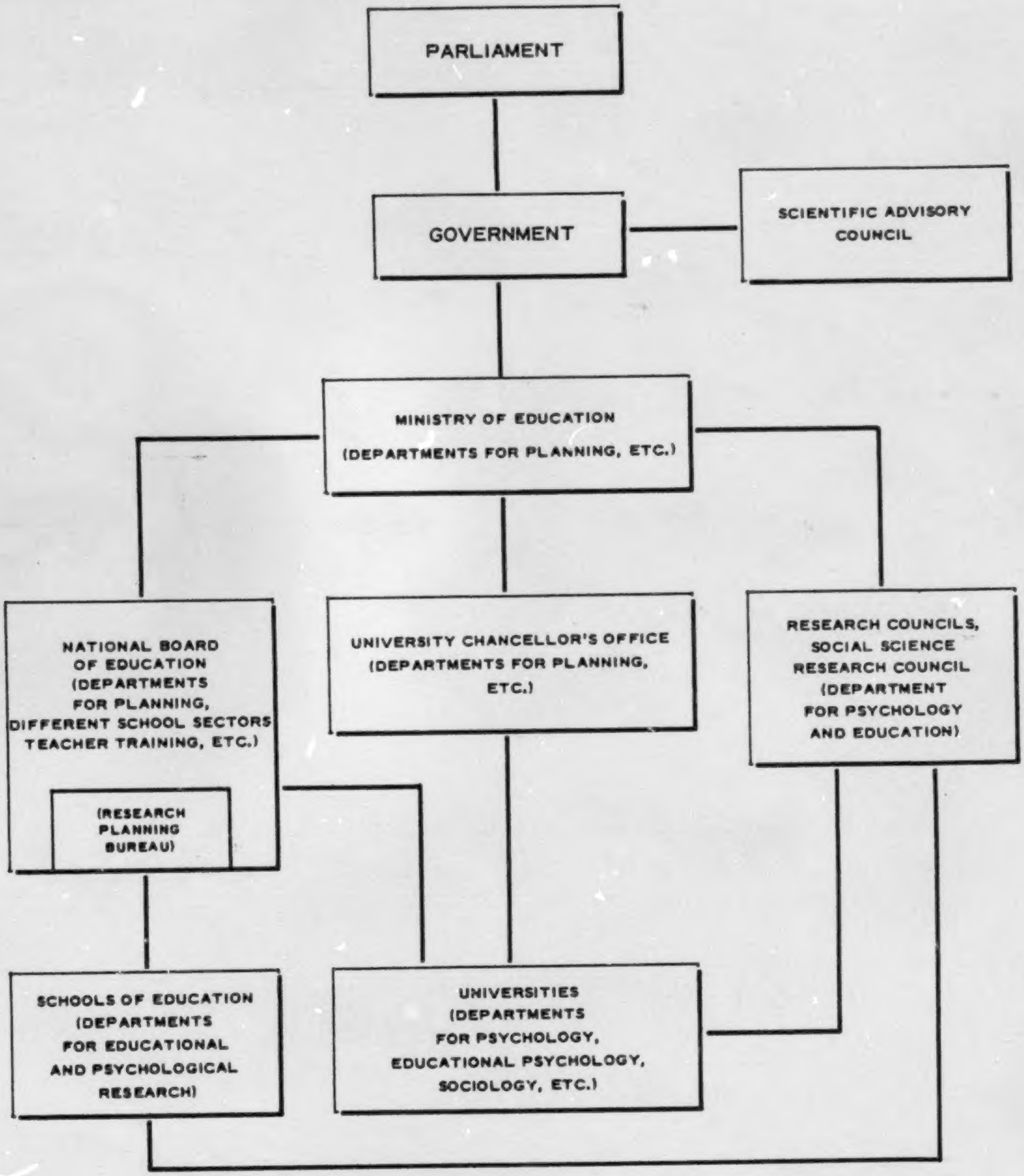
Action areas for educational planning and research

1. Quantitative planning	2. Qualitative planning
3. Quantitative research	4. Qualitative research

The Dutch report mentioned below covers all these areas. The following comments do, however, on the whole, deal only with areas 2 and 4.

Figure 2

EDUCATIONAL PLANNING AND RESEARCH IN SWEDEN


PARLIAMENT
GOVERNMENT
SCIENTIFIC ADVISORY COUNCIL
MINISTRY OF EDUCATION (DEPARTMENTS FOR PLANNING, ETC.)
NATIONAL BOARD OF EDUCATION (DEPARTMENTS FOR PLANNING, DIFFERENT SCHOOL SECTORS TEACHER TRAINING, ETC.)
(RESEARCH PLANNING BUREAU)
UNIVERSITY CHANCELLOR'S OFFICE (DEPARTMENTS FOR PLANNING, ETC.)
RESEARCH COUNCILS, SOCIAL SCIENCE RESEARCH COUNCIL (DEPARTMENT FOR PSYCHOLOGY AND EDUCATION)
SCHOOLS OF EDUCATION (DEPARTMENTS FOR EDUCATIONAL AND PSYCHOLOGICAL RESEARCH)
UNIVERSITIES (DEPARTMENTS FOR PSYCHOLOGY, EDUCATIONAL PSYCHOLOGY, SOCIOLOGY, ETC.)

I will begin by giving a very brief description of the educational planning and research situation in Sweden. Such a description is - at least for myself - necessary as a background. The different units having responsibilities in this connection are indicated on Fig. 2.

Quantitative planning (area 1 in Fig. 1) is, as far as the schools are concerned, handled by the planning departments of the Ministry of Education and of the National Board of Education. Research needed for this quantitative planning is arranged by these departments, and to a great extent also by the Central Bureau of Statistics, where there is a special bureau for educational statistics.

In general you can say that the methods for quantitative planning and research needed for this planning have been worked out and refined very much during the last 5 - 10 years. The planners seem to find it absolutely necessary to have their proposals for decisions backed up as much as possible by scientific analysis and research.

Qualitative planning (area 2 in Fig. 1) in the school sector is, on the whole, handled in a more incidental way. Proposals have been made by different governmental ad-hoc committees working on the comprehensive school, the secondary schools (including vocational schools) etc. The fundamental goals have been stated and also the curricula for the different subjects. Much has also been said about methods, but in general only in the form of recommendations. The main responsibility for the qualitative school planning belongs to the National Board of Education, where there are departments for the instruction in the different school sectors. There is continuous work going on in these departments to revise the curricula and to make sure that the recommendations about methods etc. are followed. This is not, however, done in a systematic way. If therefore the word "planning" is used in this context it means something other than the term used in a discussion of quantitative planning. In general you could say that the methods for this qualitative planning are still very much in need of being worked out and refined.

Qualitative research (area 4 in Fig. 1) is, of course, the responsibility of the research institutes at the universities and schools of education. The Social Science Research Council, which has a department for psychology and education, has, according to its instructions, to "take the initiative, when necessary, for the promotion and exploitation of research projects".

Since 1963 there also has been a Research Planning Bureau within the National Board of Education. Its task is to initiate and support relevant educational research and development work (R and D) at the different research institutes of the universities and schools of education. These R and D activities, which are now being built up, concern the qualitative aspect, the process of education (content, methods, organisation, motivation, adjustment, etc.). The present writer is working in this bureau.

As said above the following brief review refers only to the qualitative aspects of school planning and research. The Dutch report indicates that "pedagogical research and the introduction of its results are not considered to be primarily the responsibility of the government" Another passage of the report, however, brings forward a rather different attitude: "It is important to stress the fact that the Research and Planning Department not only functions as the central point for planning activities in the Ministry, but also as the central point for the financing of innovation that is goingon in the educational process itself". And some pages earlier it is said that the Research and Planning Department of the Ministry of Education does not at all limit its interest to the quantitative aspects. "Also under consideration is the problem of educational methods. A working group composed of members of the pedagogical centres and of the Research and Planning Department is studying the methods of introduction which seem to be most valuable and usable with a view to optimal educational functioning".

The pedagogical centres are said to be very important for the achievement of pedagogical results and these centres are "subsidised for their running costs" by the Ministry of Education. The pedagogical centres are not described in detail but it seems that they are organised as a compromise between research institutes and experimental schools. It is said that "sometimes the centres also carry out smaller research projects".

One of the problems seems, however, to be that "there are no formal links between the teachers' training colleges and the universities, on the one hand, and the pedagogical centres on the other". In another section of the report there is, however, suggested something that could, at least partly, solve such problems. A new institute "responsible for the promotion and co-ordination of educational research" has been proposed by a governmental study group. The new institute is, according to the report, "expected to start functioning in 1965".

In general my reading of the Dutch report has given me the impression that the educational research planning situation is very much the same in the Netherlands as in Sweden. Methods for quantitative planning and research are relatively advanced and refined. Methods for the qualitative planning of the schools are - on the whole - still lacking. Educational research on qualitative aspects of the schools is therefore done mainly in the form of piece-meal and small-scale projects. The problem of introducing into the schools new methods based on educational research also seem to be the same in the two countries.

The main problem in the Netherlands and in Sweden is probably the present lack of qualitative planning of the schools. Research on the educational process will not become really meaningful as long as the schools lack a regular planning of the qualitative aspects of their functioning. Not until school research is built into a systematic planning for the improvement and rationalisation of the work of the schools will research get a real possibility to become "the most dynamic force in the development of the schools".

It may therefore be relevant in this context when commenting on the Netherlands Report, to discuss some rather general questions, as e.g. the following:

(a) How much planning should there be as to the qualitative aspects of the schools?

(b) Can the goals for the educational system and the objectives of the different curricula be specified so as to make possible a regular planning of their implementation?

(c) Does the responsibility for how instruction is arranged in the different classrooms belong mainly to the individual teacher?

(d) Is there a possibility for an educational technology that can structure and make more efficient the work of both teachers and pupils, and fill the gap between research on the one hand and what is going on in the classroom on the other?

These are questions which the Netherlands' planning authorities also seem to be posing today. There seem to be no simple answers to questions of this type. Some of them, for instance questions b and d, may, however, be clarified by scientific analysis and research.

An important problem in this context is therefore how to build up extensive research and development work in the educational process. In Sweden a solution to this problem is being sought by establishing a research planning bureau within the National Board of Education. This bureau, which is run by people trained in scientific educational research, draws up long-term plans for R and D and initiates urgent research projects at the different university and school of education institutes. The planning of large-scale educational R and D activities is made in close co-operation between this bureau and the research institutes.

Another problem that has to be tackled is how to increase the "research-mindedness" in the central school administration and in the schools. Education is, according to the American AERA Newsletter, October 1965, "one of the few remaining fields in which the question of whether research has value still is being debated by the administrators and practitioners". The problem of how to improve the schools qualitatively, demands a less prejudiced approach than has been characteristic of the mainly teacher-led developmental work. We may have to reject the assumption that teaching practices will change if teachers are shown by research that their teaching can be more efficient and instead to accept that the behaviour of the instructor is the aspect of an instructional system that is least amenable to change and innovation.(1)

Educational research and development in Sweden is planned to expand rapidly during the next few years. It must aim at creating a better and more efficient school within the framework of the rather inadequate personnel resources available. Development in the educational area is lagging behind in relation to other areas. Work in school still follows ancient traditional patterns in many ways. Heavy demands are made upon the school to rationalise its work and organisational structure. R and D activities are therefore looked upon as absolutely necessary, in order to design and develop the best and most efficient methods of reaching the goals of the educational system.

The perspective also held for the expansion of Dutch education, furthermore an expansion which is to take place within the context of major reform for the secondary school system, would also seem to pose the question whether a major effort to organise and articulate R and D activities for Dutch education is not the prime question facing the Netherlands' planning authorities today.

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(1) Robert Glaser in"Theories of Learning and Instruction, The Sixty-third Yearbook of the National Society for the Study of Education", University of Chicago Press, Chicago, 1964 (p. 176 - 177).

THE PLANNING PROCESS IN EDUCATIONAL ADMINISTRATION: "PIECEMEAL" VERSUS "INTEGRAL" PLANNING

SOME PLANNING PROBLEMS INVOLVED IN EDUCATIONAL REFORM: POST-PRIMARY EDUCATION

by
Hans Nowotny

The reason why an Austrian has been invited to comment on the General Policy and Planning Report for the Netherlands is that an analogous report, mainly concerned with educational planning and economic growth, is about to be completed in his country. The Secretariat expected that the experience gathered in the Austrian investigations would facilitate the understanding of the efforts made in the Netherlands and provide a background against which the situation of educational planning in the Netherlands would more clearly be seen.

If, therefore, some comments are made upon the Dutch Report, which is excellent, they are only intended with this purpose in mind. They are not meant to criticise the work going on in the Netherlands, where a far longer tradition in educational planning exists than in Austria.

I. The nature of the Dutch Report - "piecemeal" versus "integral" planning

The first important difference between the planning activities going on in Austria and those presented in the Dutch Report is that the Austrian endeavours aim at assessing the long-term needs in the field of education; needs which arise from an expected evolution of society. The Austrian investigation lays particular stress on the changes to be expected in the economy (i.e. changes in production methods which are evolving towards automation and its effects on the occupational structure) and on changes of the "social demand" for education brought about by the evolution from a more or less class-determined society towards what can be called a pluralistic society (this status being characterised by a higher degree of social mobility).

The Dutch report is not such a pilot study. It is a description of a wide range of planning activities in different fields of education, each of which could be the subject of a "pilot study". The report is designed "to give Member countries an idea of what has been done, and what will be done, in the field of educational planning in the Netherlands", activities which - as this report states far too modestly - "are still of a more or less piecemeal character".

After careful consideration of the enormous amount of planning which has been done in the Netherlands, the reader gets the impression that what is called piecemeal planning (contrary to "integral" planning) can only be understood when one bears in mind the educational legislation in the Netherlands, the school organisation and its historical development.

Seen from the view of comparative education, the Dutch school system may be said to have some unique features; features which in no other country seem to be so marked.

These are the simultaneous existence and the scrupulously maintained equality of donominational, non-denominational, private and municipal-public schools and universities. Dutch education is unique in the constitutional right of private groups (religious, social and other) to establish and maintain schools in accordance with their beliefs, it is the duty of the state to support financially all these schools and universities on equal terms.

Setting up the programmes for the financing of education in the Netherlands implies a great deal more than the setting up of similar programmes in other countries. It means implementation of fundamental principles of educational policy, such as guaranteeing religious freedom and equal educational opportunities for everybody.

All planning in the field of education, whatever goal it may strive to reach, takes place within this fundamental school structure. It should be said that adequate education is guaranteed by law to all individuals and groups, so that they have a legal right to suitable school places. It is the responsibility of the authorities to anticipate educational needs and to provide the financial means to meet these demands.

Planning in the Netherlands has a unique position, insofar as it has to take into account the complex structural aspects of the educational system. Hence, it will be readily understood that planning in the Netherlands is completely determined by the complex structural aspects of this very peculiar educational system. No wonder that it has developed along these structural lines, i.e. arising out of countless ad hoc inquiries into the magnitude of subsidies to be granted for the maintenance or establishment of certain school types controlled or requested by denominational bodies.

The exceptional situation of the Dutch educational legislation, especially the above-mentioned responsibility of educational authorities to anticipate educational needs and to secure admission to the appropriate school or university for every sufficiently qualified citizen, throws light on some facts, which at first glance take the foreign reader by surprise.

Thus it is clear that no particular sense of urgency is felt by the Dutch general public to be supplied with forecasts of enrolments in secondary schools leading to higher education. Whatever the demand to attend these schools might be, it is the legal duty of the state to provide for more schoolroom space.

In other countries (e.g. in Austria) forecasts of that kind are designed in the first place to enlighten a wider public, in order to create a favourable atmosphere in parliament, so that the funds needed for an enlargement of secondary schools - or any other non-compulsory schools - may be voted. The difference in the importance attached to forecasts of the kind mentioned is obvious.

The unique situation of education in the Netherlands as referred to above may also account for the steady and regular trends in Dutch education. Taking into consideration the student flows through primary and secondary education, it can be found that drop-out rates for all types of schools are more or less constant. As for grammar school enrolments, the average percentages of the six grades show only minor variations during the last twenty years, so that only "model" coefficients are of interest, whereas "technical" coefficients are not likely to change.

Summing up we can say that, due to these unique features of Dutch educational legislation, planning seems to be focussed mainly on problems arising from the denominational division of pupils and schools. The central problem seems to be how to make available to parents (and later to students) a sufficient number of places in schools so that they can make their choice according to their religious convictions, without being impaired by unequal regional distribution of schools and universities. (Refer also to the following passage of the report: "As stated earlier the government has to provide adequate facilities for qualified individuals who desire a given type of education. As a consequence, great importance is attached to properly projected numbers of students in the various types of education. In these projections an attempt is made to estimate what is called the social demand for education". Here the goal towards which most of the planning activities are directed is clearly to be seen. A great deal of these activities are focussed on the execution of legal provisions regulating the complex task of educational administration. The special shade of meaning which the term "social demand for education" is assuming in this context should be noted.

It is understandable that preoccupation with these problems will absorb most of the attention and a good deal of the energy of the educational planners in the Netherlands, since all planning is oriented in the first place towards the fulfilment of the basic goals of education, which are so impressively described in the first sections of the report. And it is also understandable that a need for "long term" planning has been felt only of late.

The existing practice of school administration (including what has been called "piecemeal planning") has proved to be sufficiently flexible to meet changes in the past. It is to be expected that this flexibility will suffice to meet the changes likely to occur in the future. But - and this seems to be crucial - what kind of changes are to be expected? What does educational planning really mean?

This question leads us in the first place to a terminological problem: where is the borderline (the line of demarcation) between "piecemeal" planning and "long-term" planning? What does educational planning really mean?

If we look at our "classics" in educational planning, e.g. Louis Cros in France, Herbert S. Parnes in the U.S.A., Torsten Husén in Sweden, Friedrich Edding in Germany, etc., we shall always find that they investigate some basic phenomena, on which the life of society rests, phenomena like changes in the economic activity due to the discovery of new sources of mechanical energy such as oil, electricity, atomic energy, developments in industry and commerce due to new forms of rationalisation like automation, influencing the capacity for technical production etc. They try to determine what economic and social transformations are likely to be expected, caused by such basic changes as the use of new sources of energy and new production methods. They try to ascertain how the increase and distribution of population between rural and urban areas is likely to be affected by these changes. Their aim is to indicate the development that education will take and at the same time to set targets for the educational development in order to meet the new demands and so to safeguard an optimal growth of society.

If we try to determine what the term "piecemeal" planning could mean, we find that this kind of planning is used in the carrying out of "normal" school administration, in the "running" of educational financing including the setting up of school building programmes. In short, this term is used in regard to all activities evolving within the framework of existing regulations. In "normal" school administration it is assumed that no important changes will take place, that the legal basis and also the organisation and structure of education and its social and economic determinants will not alter, so that, e.g. rentention rates, will more or less remain the same. Day to day running of schools - which, as can be seen in the Dutch example, implies a lot of "planning" within a set of educational regulations - is not concerned with the changes behind the social and economic development. It is not concerned with the forces by which the evolution of society is determined. On the contrary: normal school administration and routine work takes it for granted that all the "underlying forces" will remain more or less constant. As soon as an alteration of the school legislation is expected (as in the case of the implementation of the Dutch Mammoth Law) the situation changes and an urgent need is felt to foresee future evolution.

So we may say that educational long-term planning is different from routine administration (which of course may involve some considerable planning). Educational long-term planning is more: it investigates the "elements" on which routine work is based and which routine work takes for granted (and must take for granted). In the light of "fundamental analyses" educational planning evolves a set of hypotheses, the implications of which have to be continually checked against reality. It also sets itself some targets to be reached in order to meet certain social or economic needs (e.g. manpower requirements). But even if we agree that piecemal planning remains within the framework of a given set of educational regulations and that long-term planning investigates the basis on which this set rests, it will be difficult in practice to draw a clear line between the confines of the two terms.

An impressive piece of long-term planning in the Netherlands is described in Chapter X of the Report which deals with "Organisation and Planning of Higher Education".

We are told of the sharp increase of enrolment figures in higher education: the number of students in 1955 was 29,500; it increased in 1960/61 to 40,000, in 1964/65 to 58,000. According to estimates, more than 80,000 students are expected by 1970. This expansion tallied with the Dutch government's industrialisation policy which necessitated an expansion of academic education.

The expansion problem has been dealt with systematically by a number of committees (e.g. the Committee for the Expansion of University Education and the Committee for the Expansion of Higher Technological Education). The results of these efforts have been included in a report, in which a long-term policy was proposed, destined to deal with the flood of students and to prevent university training from running into difficulties. This long-term plan forms the main part of the 1961 "Memorandum on the Expansion of Academic Education", in which the expected increase in the number of students up to 1975 and the evolution of the demand in every branch of study are estimated.

It is interesting to note that the guiding principle for the assessment of the demand for graduates was not - as might have been expected- the probable evolution of economy during the years to come (with special emphasis on the expected innovations in production methods etc.). Instead, the number of graduates was a function of the fundamental principle of the education in the Netherlands, according to which "any person who desires university training and holds certificates entitling him to sit for university examination should have the opportunity to do so".

In pursuance of the university development plans, institutes of higher learning have to submit annually to the education Minister their "financial plans" in which an estimate of expenditure for the four years following the budget year in question has to be included.

We have here an interesting example of a close collaboration between long term planning and administrative activities. It can clearly be seen how "administrative planning" has developed on the basis of a more or less "integral planning". The planning of higher education in the Netherlands can surely serve as a model for similar planning activities in other countries, in so far as the organisation of higher learning in the Netherlands is comparable with that in other countries. The problem of comparability of educational structures is another point to be discussed in connection with the Dutch report.

II. Comparative education and educational planning - Some remarks on the new organisation of post-primary education in the Netherlands

The present writer tried loyally to "understand" the nature of the structural changes expected to be brought about by the new Post-Primary Education Act. He has to admit that he did not achieve this goal as well as he had hoped to.

We learn from page 93 of the report that individualised instruction will be introduced in the lower vocational schools (lagere technische school) and as shown on page 80 the L.E.A.O. will interest approximately 17 per cent of a school generation. The newly-developed H.A.V.O., i.e. grammar schools which do not permit access to university higher education, could affect from 6 to 9 per cent of a school generation.

The report also tells us of other structural changes within the H.A.V.O. system: so it will be possible for students holding a non-academic diploma to transfer to a fourth grade of a five-year H.A.V.O programme.

The most important innovation, however, seems to be the establishment of a transitional class (brugjaar) in all types of secondary education, in order to facilitate selection. (It is interesting to note in this context that the "brugjaar" is meant to facilitate horizontal movement "through the establishment of a better balanced curriculum throughout the system". Apparently the "brugjaar" will not be a "common" year for all pupils entering secondary education. School types will remain separated, only the curricula of the first year in all school types will be the same). Whatever the organisation of the "brugjaar" will be, there is no doubt that all these changes tend towards the establishment of a system of school which link up with each other, both horizontally and vertically.

In this context it is somewhat surprising to look at the effects expected in practice, due to these links. We note in the report that "in practice, a large number of pupils who drop out of one type of school will enrol in another (mostly lower) type". It is also said that "the ideal behind the new law is to provide a school system organised in such a way that the total inflow of students leaves school certificated after a given number of years. The certificate will not always be that of the first school chosen and will in fact, often be that of a lower type.

The nature of the intended "horizontal movement" is somewhat difficult to understand, when we learn that the new post-primary law will pave the way for the establishment of "comprehensive schools". Here and above we see very clearly that it is almost impossible to "understand" the organisation of an educational system - including of course institutions of higher learning - without making comparisons with other school systems, the organisation of which has to be known to the reader. "Understand" in this context takes the meaning of "putting into a frame" or "classifying" with the help of a set of given criteria. It is Comparative Education which offers to the educational planner just such a frame or classification system, which allows for a better understanding of a given school organisation.

The frame we are speaking of is a historical as well as a sociological one. An attempt will be made to sketch this briefly. School systems in Europe have all undergone a certain basically similar historical evolution or else are still at some stage of this evolution. Comparative education tries, through grasping the trend of this basic evolution, to pinpoint the place that each school system has reached within this development.

From a glance at the social history of the past two centuries one can distinguish two stages of social development: at the beginning of the Industrial Revolution we have clearly defined social classes, whereas in our own age the structure of society tends to become pluralistic. The school systems in Europe at the beginning of this evolution were characterised by a marked dualism, i.e. hermetically closed parallel structures. The more progressive school systems of our days are characterised to a large degree by transferability, opening the way to further studies to all gifted pupils, regardless of their social origin. This is - roughly speaking - the frame within which the evolution of school systems in the last two centuries has taken place.

Looking at this evolution from the point of view of sociology we can say that school systems are an image of the social stratification: the structure of society is reflected in the structure of school organisation. The class-dominated society of the 19th century is characterised by almost a complete lack of social mobility of families; children and their families belong to separated social classes and changes between classes (in the sense of social rising or falling) are exceptional. Education and vocational training are bound to a given social status: there are different schools for the members of the different classes. In the historical evolution this "social rigidity" to which the "structural rigidity" of the school system corresponds (there is practically no chance of transfer from the schools destined for the common people to those for the privileged classes) gives way to greater social mobility. The "democratic" society is characterised by an absence of social privileges. To the greater social mobility of families in the "pluralistic" society corresponds a greater possibility of transfer between school types, I mean the transfer from school types formerly destined for the "lower classes" to those reserved for the privileged ones. It would be tempting to trace this evolution in the school legislation of the different countries, but the limited space available does not permit going into further details.

In trying to describe this historical and sociological evolution in a general way, we may say that what all European countries in the 19th century had in common was their essentially aristocratic organisation in which class distinctions were accepted as a matter of course. These distinctions were reflected in what is known as the two-track educational system: elementary education was intended for the common people and "secondary" education was to be reserved for the upper classes. There was practically no possibility of transfer. Elementary education was aimed not at producing democratic citizens, but at preparing the ordinary people for the position in life to which they were called, whereas secondary education was conceived as training the potential rulers of the nation to take their rightful places in the state, church or business life.

To facilitate the"understanding" of the new Dutch school organisation - or indeed every educational structure of our days - and this is the aim of our little digression - we have to look more closely at school organisation and its correspondence to social stratification. Fortunately some excellent work in this field has been done recently by M. Maurice Reuchlin in his book "Pupil Guidance" (published in 1965 by the Council of Europe). It may be permitted to quote the respective passages:

> "In very general terms, the commonest feature of the traditional pattern of educational organisation was a structure which could be described as "vertical". From the moment they enter school, or very early in their school career, the children are placed in divisions in which they remain until the end of their studies. Often, these different "vertical" divisions recruit their pupils from different social groups. Naturally, the division designed for the less ambitious groups follows a shorter course.
>
> "A movement to make the vertical organisation of education more democratic, with the sole aim of satisfying the demand for longer studies, would lengthen those courses which were too short and would introduce a certain similarity between the work of the different divisions, each of which would continue to recruit its members from a particular social group."

It is quite clear, however, that democratisation of this "vertical" kind is no democratisation at all. From a strictly educational point of view it is very unlikely that certificates gained after a number of years of study in the socially "inferior" division would in practice have the same value as those gained after an equal number of years in the socially "superior" division. From a more general point of view, an essential aim of democratisation is to teach children from different social groups to mingle and get to know each other. This social experience could not be achieved if the barriers between supposedly parallel educational groupings were preserved.

This means that for many countries the main problem involved in making education more democratic consists in substituting, in place of these vertical systems, horizontal systems whereby all the children of a given age can be brought together, first in common schools, and subsequently in schools which offer a choice of courses and which keep the opportunity of transfer from one to another open as long as possible. The first step, therefore, towards a change in the system consists of bringing the traditional vertical systems into closer relationship with one another. This makes it easier to introduce legislation authorising transfers from one division to another; such legislation constitutes the second stage of the reform. But the implementation of these legal measures encounters all sorts of practical difficulties (particularly as regards the introduction of different courses), or difficulties created by prejudices still nourished by parents and educationalists.

The third stage in the reform of the system consists of creating material conditions and a climate of opinion favourable to the complete destruction of the traditional barriers between divisions."

It will be our task to see the envisaged structural changes of the school organisation of the Netherlands against this background, which now gives us some criteria for an "understanding" of a school system. Before we do that, I should like to point out some changes of a more psycho-pedagogical nature which are closely connected with the evolution described above. It is interesting to look in this context at the role pupil guidance is playing in "horizontal" versus "vertical" structures, at methods of "selection" compared with what is called in France "orientation scolaire" and at changes in school atmosphere brought about by the process of democratisation mentioned above.

As regards pupil guidance M. Jean Ferre makes the following, what may be said to be generally valid, remarks speaking of the French "cycle d'observation":

> "During this period of observation - usually at the age of 11 and 12 - pupils are offered a choice, according to their abilities, between the modern and the classical stream. Time-tables and curricula which until now have differed according to the kind of instruction given in the school in question (the long or short course, or even the technical one) will henceforth be unified or virtually so. The idea is that every child capable of profiting from a particular kind of education should do so and that guidance which is often merely fortuitous or prejudiced should give way to guidance based on thorough observation of the child's abilities (de substituer une orientation qui n'est souvent que le fruit du hasard ou de préjugés, une orientation fondée sur la pleine observation des aptitudes)."(1)

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(1) "Ability and Educational Opportunity", OECD, 1962.

It can be said that the role which educational and vocational guidance (in the sense of the French "orientation scolaire") plays within the school system is indicative of the attained degree of "democratisation" as M. Reuchlin used this term. As to "selection" and school atmosphere, the following could be said: The necessity of selection has never been called into question, but all depends on how it is carried out. In the case of "watertight separation between vertical structures" it is mostly operated through elimination, by means of an examination (test) based almost exclusively on marks gained, of pupils deemed unsuitable and doomed to leave the type of school in question. While, in the case of a "horizontally differentiated" school system, selection takes place on the strength of every possible kind of information that educational guidance (orientation scolaire) and co-operation between teachers and parents can provide. If the word "democratic" may be used with reference to a type of school, it should certainly apply to the methods of selection and the general attitude of the teacher towards the pupil to be selected. One need only to compare the atmosphere encountered in schools at which teachers acting as governmental executives "select" pupils by marking their examination papers and passing judgements on them, with that found in schools at which educational psychologists, physicians and teachers co-operate to advise the pupils and their parents in matters concerning the choice of the most appropriate school career. As already mentioned above, the role guidance actually plays in the course of selection (and not merely its institutional role) is decisive when an attempt is made to judge the level of "democratisation" attained within the school types, with which we have to deal here.

After this rather lengthy preparation - meant to provide what we called a frame (a system of reference) for the understanding of the new Dutch system - we can look at the school types in question and at the changes envisaged.

Looking at pre-academic education in the Netherlands in its present forms we can distinguish the "gymnasium" with its alpha and beta stream, the "hogere burgerschool" (H.B.S.) with its A and B stream and a combined grammar school, the "lyceum". (It would be interesting to know if, as matters stand at present, there is a possibility for girls within the lyceum to transfer from the "middelbare school voor meisjes" to the "hogere burgerschool" or the "gymnasium".

The most striking innovation envisaged in pre-academic education seems to be the creation of the atheneum type which, evolving from the "hogere burgerschool", will offer grammar schools of a modern type giving pupils access to university higher education. In the report, information on this school type is rather scarce (it is given only in Appendix III); its presence would be highly appreciated. In order to understand the envisaged new organisation of pre-academic education in the Netherlands it would be important to know on the one hand to what extent gymnasia and athenea will remain separated from each other, and on the other, what possibilities of transition from non-academic general secondary education (i.e. of the M.A.V.O. type) to H.A.V.O. schools will be offered.

In this context the nature of the "brugjaar" becomes of a special interest. Will it be a common institution for all pupils like the French cycle d'orientation, giving access to all types of education in an upward direction, or will it be simply the first year in the separated types of (non-academic and academic) secondary education, with the purpose of "selecting" primary school pupils for a secondary education leading to higher education (or to M.A.V.O. schools), with the effect of directing those deemed unsuitable to a "lower" school?

All these questions of school organisation are of vital importance for educational planning, since output figures - in this case for the number of certificated school leavers entitled to pursue studies in institutions of higher learning - depend on transfer possibilities between secondary schools which may or may not allow partial access to higher education and those allowing access to all types of higher education.

What is also of great interest is the relation between different types of technical schools (possibilities of transfer from the "lagere technische school", the "uitgebreid technische school" to the "hogere technische school" compared with what the Germans call "zweiter Bildungsweg"), and the relations of the technical schools (especially H.T.S. and H.E.A.O.) to H.A.V.O. Looking for example at the new "high school system" in Sweden (schools for the age-group 16-20), we find that a rigorous and concentrated effort is being made in that country in order to reduce or break down as far as possible the division between the different types of schools. How far can similar trends and tendencies be ascertained in the Netherlands?

This question brings us to one of the most interesting chapters of the Dutch report, namely to chapter VI, dealing with problems of efficiency.

The attempt to evaluate efficiency, either what is called external or internal efficiency, deserves our whole interest and our full appreciation. We fully agree with the idea that without independent thinking on this topic it is not possible to bring about an integrated approach to planning. It needs also the courage of one's own convictions to declare that the "internal" efficiency of educational institutions can be measured by the ratio of the input of students to the output of students, so that student drop-out is an indication of the efficiency of a school system. It may be permitted to remark that a comprehensive study of the causes and reasons of student drop-outs focussed on grammar schools and institutions of higher learning is at present going on in Austria.

To the "factors affecting internal efficiency" another may be added, to which some allusion has been made in the Report. I mean the emotional problems of the teacher in the classroom and their effect on efficiency.

I fully agree with the authors of the Report, when they stress the necessity of finding out, if the attitudes of teachers and other educationalists are still based too much on traditions which are no longer relevant in the contemporary situation. I also agree with the idea that educational guidance to be provided by school councellors should help the pupils to solve their personal problems. What has been overlooked so far in most of our countries is that teachers also have their personal problems, problems which are likely to affect the pupil's progress in school and what is even more - given the natural suggestibility, positive or negative, of the pupils - to influence the development of the child's personality. We all know from experience in our daily life that a neurotic or aggressive person will modify, for example, the whole atmosphere of an office, because every manifestation of personal agression is liable to be echoed in the whole system of relationship. Speaking of "efficiency" it cannot be over-stressed that the teacher's own response to the children he teaches and the ways in which the school staff react to each other, to the head, to parents, to the educational hierarchy of which they form part, all influence the atmosphere in which the children at school live and learn and naturally are of crucial importance for the "internal" efficiency of a school (cf. "Education and Mental Health", by W.D. Wall, Unesco, Paris 1955). Speaking from experience as a former headmaster of a grammar school in Vienna, I can confirm that the main reasons for the drop-out of students were emotional problems either on the side of pupils (and their parents) or on the side of the teachers or on both. Educational planning which is concerned with "numerical" problems of efficiency will have to take care of that important cause of what we will call "attrition", and will thus contribute to alleviate one of the most serious problems in psycho-pedagogy.

If our colleagues in the Netherlands do pursue that course of action so well started in their efforts to improve efficiency, they can be sure of the interest and solidarity of all educationalists who stressed the importance of that aspect of education at the XVIth International Conference of Public Education, of which the 36th Recommendation (para. 50) reads as follows:

> "Because one of man's greatest unsolved problems in his relationship to his fellow men, the teacher should have the interests, the attitudes, the knowledge and the skills necessary to teach good human relations, tolerance and solidarity in classroom and home, and in the local, national and world community; the training establishment should recognise the paramount importance of this problem and, both through instruction and practice, qualify the teacher to teach good human relations and world understanding."

II. SUMMARY OF THE DISCUSSION

by

Pierre Laderrière

In examining the Netherlands Report the experts considered each of its principle chapters in turn. This was followed by a discussion. Many interesting contributions were made and the discussion soon went beyond the scope of the Netherlands report and concentrated on some of the main principles of general educational policy and planning. It seemed necessary, therefore, in preparing this summary to regroup the basic ideas on which the E.I.P. Group, and the experts invited to give their comments, focussed their attention.

Presentation of the Report

In his introductory statement which is summarised in the Foreword to this publication, Mr. Veldkamp, Head of the Research and Planning Department of the Netherlands Ministry of Education and Science, endeavoured to place the report in the general context of research and forecasting machinery in the Netherlands educational system. He pointed out that the report described the situation at a given moment and that some aspects would be quite different if the report were rewritten today. It was becoming increasingly clear that such reports could not have a decisive influence unless they were periodically revised or, even, rewritten.

This type of report was most valuable because many of the topics discussed might logically be, and indeed ought to be, subjects for pilot studies. The results of such studies might sometimes be included in the reports, as was the case in the report under discussion.

Emphasis was thus laid before the discussion began on the value of a report of this kind both from a national and an international point of view, provided it opened the way to further research and was subsequently revised in the light of educational developments and the findings of research.

To enable conclusions to be drawn from the discussion the main topics dealt with have been regrouped under three main headings dealing respectively with educational aims, structural reforms and planning machinery, and research and innovation in the educational system.

1. Aims of the educational system

A most interesting feature of the report is the attempt made in Chapter II to explain the inter-relationship between society's goals regarding education and educational plans. The E.I.P. Group as a whole agreed that this part of the report was most important for it was perhaps the first time that a society's aspirations with respect to its educational system were presented clearly and frankly in a report. Presenting these fundamental principles implied a readiness to have them compared with actual practice and hence with the results achieved by the educational system and the resources used to achieve them.

Formulation of goals

First the goals must be defined. In a society which is constantly evolving they need to be redefined in the light of the general trend. Who should be responsible for this? It is not the planner's job to formulate goals: this is the job of the politicians - who do not always formulate them clearly. Thus, aside from putting clearly defined goals into practice, it is up to the planner to discover what actually lies behind ill-defined goals.

Mr. Eide pointed out, for example, that the terminology used in describing these goals could be a source of confusion: e.g., the notion of "freedom of education" could be interpreted in very different ways, so a more neutral term would have to be adopted if similar phenomena were to be described clearly at an international level. In Mr. Geen's view, the difficulty was increased by the successive additions made to the system, sometimes without any explicitly stated purpose, even though current reforms of the system may all tend to have a common aim. Thus current efforts to reconstruct an educational system on rational lines by reference to its goals come up against the difficulty that these goals have not been stated or are not coherent. In the case of the Netherlands report the authors have endeavoured, on the basis of the fundamental principles governing Netherlands society, to set forth its future expectations for education.

While noting the particular context within which the Netherlands planning group produced this report, Miss Robinson nevertheless did not think that it represented the best or final method for developing a statement of goals. In her view, only a constant dialogue with the most highly qualified representatives of various communities could reveal society's aspirations for the content and ends of education. Such a dialogue is necessary as a prerequisite to genuine planning. Of course, the Netherlands report in its present form, as the first of its kind in this country, aims to promote this dialogue by encouraging ever larger social groups, in particular the different decision-making bodies, to study and co-ordinate their educational activities. However, until the machinery for consultation has been established, such a document can only be called a "plan" in the sense that a small group of persons has determined the resources to be allocated by society for the development of an educational system along the broad lines which this group understands to be generally acceptable.

When contact has been established among various Dutch educational institutions, as in the case of university level higher education, it has been possible to proceed with a measure of educational planning (see chapter X). Although there is co-ordinated action at this level it should nonetheless be stressed that student flows in higher education are governed by policies, structures and factors that have so far eluded co-ordination; this makes practical planning difficult.

The Netherlands planning group indicated that this will not always be the case. For example, the Netherlands Authorities are at present studying how to establish a system of co-operation between the national educational organisations and the Ministry which will enable them to collaborate in the studies required for the planning and setting up of schools under the new Secondary Education Act. Co-ordinated study and investigation at secondary and higher educational levels should then lead to much more integrated development plans.

Meaning of the goals

After stressing that the formulation of goals raised the problem of responsibility, the members of the E.P.I. Group discussed the implications of these goals. Mr. Von Mutius considered that these goals might, in fact, be divided into three categories: constitutional principles (freedom of education - goal number 2), goals which might be defined quantitatively (scientific development - goal number 6), and principles governing education (adapting the individual to technological development - goal number 5).

Mr. Eide said that he could not clearly see what position was to be given, in the list of different goals, to the important educational goal looking toward relationships among members of the national community. Furthermore, he considered that goal number 3 ("to provide adequate education for all individuals and groups to the highest levels that they demand") was hardly explicit, for the root of the matter lay in the various means which would enable influence to be brought to bear on the social forces orienting demand for education. However, it was not the meaning of the goals that was principally studied by the Group insofar as they reflected a national specificity that did not concern foreign experts. A foreign observer, on the other hand, could study the coherence of these goals and the relationship between targets and resources.

Coherence of the goals

Mr. Little wondered in his paper whether there was not a risk of tension, even conflict, between the various goals of the Netherlands educational system as described in chapter II. This type of tension between different goals is not in fact confined to the Netherlands as was emphasised by several speakers. The possibility of conflict is inevitable in a developing society and can even stimulate progress.

Goals number 3 (social demand) and number 4 (demand for manpower) provided an example of possible conflict between two goals. The observation in chapter II of the report seemed to assume that there was no contradiction, but Mr. Sandgren found this difficult to accept. He thought this contradiction did generally exist but should not pose any problem so long as the relative importance of the various goals could be indicated by defining a "target function" which established the levels or weights related to each of these goals.

Thus while it was considered necessary to aim at coherent goals it was also considered that the rapid changes which characterised our societies would create tensions. These would either have to be reduced by adjusting the targets or accepted and efforts made to determine how much incompatibility was permissible.

Giving practical effect to the goals

The problem of putting the guiding principles into practice, i.e. the actual operation of the educational system was closely analysed by Miss Robinson and Mr. Little. In their respective papers they stressed that the different goals formulated in chapter II had not been clearly linked with their quantitative and qualitative implications. Miss Robinson, for example, pointed out that for the first goal ("which rolls into one statement all the various 'social' purposes of education") it would be advisable to know "what planning targets and resources are related to achieving these goals". Moreover, these goals are of interest only if the results achieved can be assessed. This failure of the descriptions to coincide, as regards the formulation of goals and the actual practice within the school system, is not peculiar to the Netherlands. Faced with the realities of the educational system, national authorities are apt to disregard the link between the goals and educational practice and the assessment of the effectiveness of the system in the light of the initial targets. It was stressed that this assessment which in this respect was in line with Mr. Bjorklund's research proposals should be much more closely concerned with the qualitative than the quantitative aspect.

This last proposal shows the extent to which the discussion of the first few pages of the Netherlands report threw light on what should be included in a report on general policy and educational planning designed to cover the problems raised by the development of the educational system as a whole, the solutions adopted, the machinery for implementing the policy decisions and the results obtained.

2. Structural reforms and planning machinery

Consideration of the role and place of institutions responsible for the various types and levels of education was initiated by Dr. H. Nowotny who, in view of the complexity of the Netherlands educational system, recommended resort to comparative education in order to distinguish clearly the characteristic features of the system described in the report.

Difficulties in understanding the system were increased because of its decentralised structure, the presence of public and various denominational schools and different administrative authorities, as described in chapter IV.

The combination of successive additions to the system and observance of the principle of equality of status of public and private schools makes structural reforms and planning machinery more difficult insofar as arrangements must be made for official or unofficial consultations to allow gradual modification of the educational system in its different compartments and levels.

Reform of secondary education

The Post-Primary Education Act, like all laws, is the result of a political compromise; there are weak points, but it has the merit of integrating in a single text material that was previously dispersed and did not permit an integrated approach. The Act is not simply an attempt at classification. Faced with the growing demand for education and technological progress the Netherlands authorities proposed a structural reform of secondary education which the different decision-making bodies are starting to implement. Decentralisation implies a distinction between public education and private education due to differences in the framework and atmosphere surrounding education (different textbooks, religious studies that are general in denominational schools and optional in public schools). However, education is provided on the basis of identical structures and curricula.

In the Netherlands, the transitional year ("brugjaar" - after six years of primary education) established under the new Post-Primary Education Act should allow for better observation, orientation and selection of pupils. The "bridging" year will enable pupils to be oriented towards the education for which they seem best suited and make horizontal transfers easier than in the present more rigid vertical structures. New kinds of schools and types of education are to be established at the secondary level and will allow for easier horizontal transfers, even beyond the transitional year. The aim is to set up a better balanced educational system, going so far as to make possible general education and vocational education sections in the same schools.(1) Under this Act, for example, two types of "LAVO" (preceeding shorter vocational training) are possible:

(a) As a separate (the lowest) type of general secondary education;

(b) As the first cycle (one or two years duration) of junior vocational education.

Transfer from "LAVO" to other types of general secondary education (e.g. "MAVO") is a possibility.

The Netherlands planning group acknowledged that the Act has not widened the scope of sectors such as educational and vocational guidance; it is not yet really integrated in the educational system. Provision is being made for the development of "auxiliary" services responsible for psychological, medical and social assistance to pupils.

Structural reform and democratising access to education

This new structure is nonetheless subject to certain criticism insofar as the new Act's major objective is to democratise access to education by changing the structure of the system. Several speakers emphasised the need to examine the role of this structure and see how it was linked with the social structures of the national community.

Mr. Saltzman thought that, before any assessment was made as to these structures or their modification, consideration should first be given to what extent these structural reforms actually contribute to democratising access to education (more particularly access to secondary education. Mr. Saltzman further raised the question to what extent the educational system, a product of its society, could be expected to reform itself beyond certain limits set by this society. This was answered by noting that planning could enable the educational system to become aware of the internal reforms that needed to be undertaken without waiting for them to be triggered-off by outside developments. It should be the function of analysis performed in the planning process to see at least what internal reforms in education are demanded because of changes in the society, since established educational institutions often lag far behind general developments. It is this kind of understanding that has led to the current moves for structural reforms.

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(1) See chapter V of the report, paragraph 3; also Appendix II (Glossary of the present system) and Appendix III (Glossary of the future system).

With regard more especially to the transitional year designed to encourage orientation or re-orientation, its precise nature with in the "LAVO" (first cycle of junior vocational education) was queried: Did the education provided there, which allowed for advancement from general education to specific vocational training really make it possible for pupils to transfer to other types of general education? The experience of other countries gives grounds for fearing that the pupil admitted to the "LAVO" is confined to vocational training. Conversely, for the other types of education, while the curricula are the same, this transitional year's schooling will be provided in separate schools. France has had to give up this structure after trying it out. The 1959 reform, which set up observation and guidance machinery in separate schools at the first cycle level of secondary education, had to be modified in 1963. The establishment of schools with a variety of curricula at first cycle level permitted a continuous process of re-orientation within the same school, whereas between 1959 and 1963, subjective and even financial factors had obstructed genuine horizontal transfers from one school to another.

However, such a reform simply reduces the geographical inequalities of school attendance and encourages re-orientation locally. The co-existence of different sections in the same school is not bound to make them less watertight insofar as each section is distinguished by a well-defined form of education. It is becoming increasingly evident that a real improvement in the conditions of access to secondary education entails a change in the form of education provided, the predominant form generally being far too far removed from the experiences and systems of motivation of children from the lower social classes. Nevertheless, under such a reform a veritable "compensation technique" would have to be put into effect in order to keep the maximum number of pupils from a less favoured background in the educational system as long as possible: expenditure on each pupil would therefore be higher and financial assistance to families might also be added to this as a result of lengthening the period of school attendance. But this additional expenditure, per qualified graduate, may be partly offset by improving the system's efficiency, especially by reducing the number of drop-outs. These different observations justify the very great interest attached in the Netherlands to the pilot tests now in progress with a view to the final and general application of the Secondary Education Act.

The future of university level higher education

The increase in the number of candidates for university level higher education creates problems in the Netherlands recognizable in other countries. To meet the problems involved in the long duration of studies, the high number of drop-outs and the need to provide new types of high level manpower, a shorter bachelors' degree (a three-and-a-half-year course) is now awarded experimentally at the Enschede University of Technology which was set up in 1964. In addition, there are training courses for teachers, linked with universities but not leading to a university diploma, and these can be regarded as vocational training courses.

As far as the university's role in research is concerned, the Netherlands has not yet set up a co-ordinating body at the highest level for work done under research and development policy by various bodies in different fields. In view of the need for such an advisory body, a "Council for Science Policy" is to be set up shortly.(1)

It is at present very difficult to give exact figures for the amounts allocated to research from university budgets, since the universities receive funds which they use for both research and teaching but the proportions are not known. Nor, in fact, are there very strict scales for the distribution of heavy equipment in the research field, since what today appears impossible to supply to all universities, may within a few years become an integral part of each university's equipment. While research contracts between the private sector and universities exist, they have not been extensively used since Netherlands' firms undertake numerous research projects themselves. Informal contacts enable the universities to keep up to date with the basic research requirements of industry. Moreover, setting up a "Council for Research and Development Policy" should clarify the Nation's total requirements in this field.

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(1) The Council was installed by the Minister of Education and Science on the 6th of October, 1966.

Planning machinery

The highly decentralised structure of the Netherlands educational system undoubtedly creates technical difficulties for planning. The report itself, according to Mr. Von Mutius, covers various types of planning: overall and quantitative planning, the results of which are set out in chapter IX - planning for schools - school building programmes.

As has been stressed already, the first attempts at planning were made at the level of university education, based on estimated numbers of students and on demand for university graduates, and on qualitative aspects. The planning machinery used for the expansion of university education as a whole has been described in chapter X under 3 B of the report.

The planning procedure for the development per university (teaching and research) is regulated by law since 1961. All universities, whether public or private, must draw up a development plan every four years. The universities' development plans are submitted to the Academic Council which studies the plans with a viewpoint toward co-ordination. The Academic Council is a body which confines itself not solely to university development but also to the relationship between the universities and the various sectors of society. For representing those sectors a number of its members is appointed by the Crown. This Council advises the Minister. The Minister submits his own "policy" memorandum together with the university-development plans to Parliament for discussion, which takes place every four years.

However, university education is likely to develop on rather isolated lines insofar as concerns relation to certain developments in secondary education. A special planning body, which co-ordinates and in which are reflected planning activities in secondary as well as in higher education, does not exist. Although there is a Board of Education (Onderwijsraad), which has sub-sections representing the different educational levels (higher education, secondary education, etc.), this

Board is not concerned with the aforementioned kind of planning. Some provision in this respect will be needed. It has to be mentioned, that even in the planning exercise undertaken at university level, the bodies responsible for forecasts have to cope with the lack of expert staff.

Admittedly there are as yet no links allowing assessment, for example, of the output of "informal" education, but, the improvement of forecasting machinery and the collaboration of the various groups responsible should enable this step to be considered in the near future.

The new planning procedure for schools, which co-ordinates the forecasts of different denominations with those of the Ministry, is still in its early stages and it will take time before it begins to produce results. The development of this machinery should make it possible to change gradually, as stressed in Mr. Nowotny's paper, from "piecemeal" to "integral" planning responding to general goals which require, for example, consideration of student flows through the system as well as forecasts of skilled manpower. The Netherlands already has a fairly long experience in the development of educational planning in this direction.

Manpower forecasts

The discussion began with the understanding that no model has yet supplied an optimum solution, especially when the aim is to include all manpower requirements. In this connection, Mr. Eide developed the idea that the forecasts of manpower needs currently made in many countries are largely based on the present make-up of manpower, which was determined by the supply of graduates. He concluded that the forecasts in the Netherlands report are based on just such an assumption of a developing manpower demand in the presence of a supply whose composition remains fixed.

Referring to this point in his paper, Mr. Little developed the idea that not enough emphasis had been laid on the fact that education created its own demand, which might explain why a good many forecasts had been so quickly outstripped.

Replying to various speakers, Mr. Ruiter first stressed his keen awareness that the educational system "nourished" society, but it was extremely difficult to give effect to this idea when carrying out a planning exercise. In making demand studies for university graduates it was e.g. assumed that certain categories of new graduates, such as psychologists, would create their own demand. The autonomous influence of education on society has been experienced quite markedly in the Netherlands. The following may serve as an example. After the war industrial firms planned their physical equipment and organisation assuming a continuous inflow of young unskilled workers. However, rapid educational expansion resulted in increased numbers of skilled workers and technicians and dried up the stream of unskilled workers. Industrial undertakings had difficulty in adapting themselves to this new situation. This experience convinced educational and manpower planners that they not only should inform educational policy makers about the expected demand for skilled personnel but that they also should confront industrial authorities with the expected changes in educational qualifications of the influx into the labour market (i.e. the output of the educational system). Mr. Ruiter thought that forecasting short of requirements was general and could be attributed to the swift changes in our society which were not all anticipated by the planner.

Replying to Dr. Steindl's comments that efforts should be made to obtain a full and coherent picture of supply and demand at all levels instead of a few categories of manpower only as was the case in the Netherlands report, Mr. Ruiter said that it was important to make forecasts where there was shown to be too wide a gap between graduate supply and demand and where the training period was very long. On the other hand, so far as shorter training was concerned (e.g. skilled workers), students, parents, teachers and society in general could far better anticipate the demand for graduates over the next five years than could the forecasters, thus enabling planners to concentrate on new methods of long-term manpower forecasting.

Planning and the system of financing

Although the Netherlands already has valuable experience in this area the difficulties confronting educational planning in a country where the school system is so highly decentralised and where the structure of the educational system tends to reflect social structure, did not escape the meeting. Moreover, the term "decentralisation" was open to very different interpretations. Mr. Eide pointed out that in his country, Norway, decentralisation was the official policy though in practice it did not go very far. The fact that in the Netherlands each sector received the same help from the public authorities might indirectly stimulate planning. The point to be determined, Mr. Little noted, was how far the system of financing provided planners with a practical instrument for changing the structure of the educational system. That the centralised system of financing operating in the Netherlands was a potential means of effective action could already be seen from the arrangements concerning school building and the forecasting of expenditure. Taking the example of the Klos Plan (see Appendix IV of the report) concerning the building of schools for training nursery school teachers, it was indicated that if the plan were adopted the amount required for its implementation would be entered in the budget each year up to 1970.

In the case of university level higher education there was no difficulty regarding contacts between those responsible for forecasting and planning university development; arbitration was entrusted, for instance, to officials in the Ministry's Higher Education Directorate, who held annual discussions with each university's budget service in order to work out a draft budget which would have the agreement of the university authorities.

Finally, the question was raised whether the estimates of total expenditure for 1970 and 1978 set out in chapter VIII were based on planning decision or simply a forecast. Mr. Ruiter replied that between now and 1970, i.e. in the short and medium-term, close collaboration would be established between the economic and educational planners; the data given for 1970 were certainly based on the straight-forward integration of information provided by the Central Planning Office. Conversely, the long-term estimates for 1975 were simply forecasts designed to give present notification of the anticipated growth.

These few examples clearly illustrate the course followed by the Netherlands authorities. In specific sectors, such as school building, supervisory machinery should certainly be established to check the implementation of plans. In this connection, Mr. von Mutius mentioned the example of one of the German Länder where an inspector had the special duty of reporting on the implementation of plans directly to the responsible Minister. However, the existing machinery will probably be more effective as a more highly integrated planning process develops.

3. Research and innovation in educational system

The reforms to be carried out in the educational system are usually determined by the inefficiency revealed in its operation in the light of the general trend of society. Thus all the participants stressed the importance of chapter VI dealing with the efficiency of the educational system. Assessment of the system's efficiency should allow investigation into the causes or reforms to be initiated immediately.

Efficiency of the educational system

As an economist, Dr. Steindl pointed out that the notion of efficiency was found to be the main concern of authorities spending 5.6 per cent of the G.N.P. in 1965 for education (and perhabs as much as 8 per cent in 1975).

The measurement, causes and significance of student drop-out, as one of the most visible evidences of efficiency, were then discussed. First, Mr. Eide pointed out that it would be advisable to define the aims accurately in order to measure the results: e.g. in the case of girls in higher education "waiting for marriage", the drop-out is of a very special type.

It was further emphasised that while these losses might affect a given type of education, the students might continue their studies elsewhere in another kind of educational institution, usually at a lower level. A study of the real drop-out rate, therefore, presupposes a better knowledge of transfers of pupils from one institution to another, and a clear definition of aims for the system.

Several speakers pointed to the possible causes of these losses. Mr. Nowotny considered, for example, that there would always be a certain number of drop-outs since not all students at the highest educational levels would be able to continue their studies. In his commentary he indicated, in particular, that among the causes of the inefficiency of the educational system were emotional problems created within the school by the relationships between teachers and pupils, which could influence the progress of studies and even the development of the childs personality.

It was considered that internal analysis of the educational system and its resources has not adequately explained drop-outs. To these internal considerations, several speakers pointed out, must be added that the pattern of drop-outs might correspond to social strata within the educational system. A breakdown by social class attendance rates and drop-outs might emphasise the "reserve of talent" not yet used, and efforts would have to be made towards a genuine reform in order to draw upon this intellectual potential at the lower social levels.

Mr. Eide discussed briefly how a study of the planning models of student flow through the educational system showed that there were a series of inter-relationships in which educational policy is one of the forces influencing many factors which are represented as forces external to the system.

The examples mentioned during the discussion showed nonetheless all the structural and financial implications of a specific policy applied in this respect. Thus in the United Kingdom a strict selection system for entrance to university level higher education resulted in a low number of drop-outs. A study carried out in Canada had shown that drop-outs decreased when the quality and number of teaching staff were raised, which entailed increased expenditures. The Netherlands Group described a survey in progress in the Netherlands on drop-outs from one generation of students. Undertaken on a scientific basis, this survey should make it possible to demonstrate what caused drop-outs (this could only be guessed at at present) and then to develop possible solutions to this problem. This type of study should gradually improve the operation of the system and at the same time allow innovations to be progressively introduced.

Educational research planning

Miss Robinson first stressed the need to set forth clearly the means and resources placed at the disposal of educational research services in order to stimulate innovations and put them into effect. In her commentary she considered that the report did not deal with these points in sufficient detail. Taking the example of regional research laboratories recently set up in the United States, Miss Robinson demonstrated that institutionalisation of educational research and development necessitated integration and close co-ordination of the different bodies and the activities of the experts concerned; the main feature of the situation prior to this having been the dissipation of effort when, in particular, research laboratories were artificially grafted on to the educational structure. Mr. Little said that the main conditions for "the self reform" of the educational system were the establishement of machinery for collaboration and contacts between the various groups concerned (research workers, teachers, administrators) and the continuous implementation of innovations (research and the application of results) within the system.

Thus publication of the various studies in progress is of vital importance both at national and at international level.

Mr. von Mutius stressed, for example, the importance of the "Register of Applied Research in the Social Sciences" in Germany which was initiated in 1963 with a view to co-ordinating research work and avoiding duplication. He thought that a register of this kind should also be provided at international level as an "information pool", since countries at the same stage of development should not need to undertake certain studies that had already been carried out elsewhere. Nevertheless, according to Mr. von Mutius, it would be advisable for each State to ensure that the ministerial departments concerned were always kept informed on research projects and their results, since research should not be too isolated from the bodies responsible for putting its results into practice. Mr. Veldkamp pointed out that in the Netherlands such information was guaranteed by the fact that the Head of Research and Planning Department of the Ministry is a member of the Governing Board of the Foundation for Educational Research.

The qualitative aspects of research

What are the important subjects for research? There seem to be so many that it appears necessary, as Mr. Erder pointed out, to draw up an order of priority, taking the funds available into account. According to Mr. Bjorklund, the "priority among priorities" should be research at the qualitative level which would, in particular, evaluate the broad changes in maturity and development induced in the child throughout the educational process (changes in attitudes, reactions to the education provided, etc.), and would not simply measure the additional information a pupil had acquired at the end of the process compared with what he knew at the beginning, as was currently the case in many countries. A research project of this nature currently under consideration in the United States, has shown the initial need to develop a method of measurement, which is still lacking. Sweden has made an effort to encourage and co-ordinate similar educational research by setting up a Planning and Research Office in 1963 within the National Board of Education.

In the Netherlands the universities themselves are going to develop studies on the education they provide. Educational research is further done by the Academic Council and by a new foundation which is an inter-university institute for social scientific research (Stichting inter-universitair instituut voor sociaal wetenschappelijk onderzoek).

It is interesting to note that the most important research projects are mainly concerned with the "qualitative" aspects of education which are apparently a prerequisite to more efficient education. However, it must be possible for "potential" innovations to be introduced easily into the system.

Citing experiments carried out in Germany, Mr. von Mutius pointed out that resistance to innovations could be avoided if those mainly responsible for putting them into effect - i.e. teachers - were involved in various ways in preparing new projects in research centres and not only in university centres: e.g. during a period of vocational training or re-training for teachers. Mr. Veldkamp acknowledged that co-ordination and publication of the various research activities were not yet fully satisfactory in the Netherlands. However, the establishment of a foundation for the co-ordination of research composed a.o. of people from the "Pedagogical Centres", should facilitate better understanding of research requirements and more efficient transmission of results.

Concluding note

The discussion of this report proved the value of such reports for exposing basic educational issues both at the level of the nation concerned and at the international level. The originality of the Netherlands report was contained in the type of problem it raised, such as, the nature of efficiency in the educational system and what should be its relationship to reform-oriented research. It was made quite clear that the report describes the educational structure at a given moment and could be expected to change significantly before very long, which illustrates the need to review the general position of educational systems at regular intervals in documents objectively assessing the situation and, at the same time, providing matter for policy reflection. Such work can be expected to be the by-product of the new machinery established and progress being made towards an integrated planning process for education in the Netherlands. Related to this new planning machinery is the prospect of advancement in research, looking into key problems in the educational process and into the organisation of the educational transformation.

265 - 266

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